

THE BRITISH
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THE BRITISH GYNÆCOLOGICAL JOURNAL:

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VOL. XIII.

EDITED BY

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MAY, 1897.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, FEBRUARY 11, 1897.

PROF. MAYO ROBSON, F.R.C.S., PRESIDENT, IN THE CHAIR.

PRESENT : 40 Fellows and Visitors.

The following gentlemen were elected Fellows of the Society : — J. Buchanan, M.B., F.R.C.S., Melbourne ; R. Petch, M.D., York ; H. Colligan Donald, M.B., Paisley ; P. Macgregor, F.R.C.S.E., Huddersfield ; Baxter Tyrie, M.B., Keighley, Yorks ; H. De Carle Woodcock, M.R.C.S., Leeds ; C. Ward, F.R.C.S.I., Pietermaritzberg, S. Africa ; Henry Harley, M.D., Battersea.

The following gentlemen were proposed for election : — H. J. Robson, M.R.C.S., Leeds ; H. E. Whitehead, M.R.C.S., London ; B. L. Eastman, M.D., New York ; J. B. Hellier, M.D., Leeds ; McGregor Young, M.B., Leeds.

VOTE OF CONDOLENCE ON THE DEATH OF SIR SPENCER WELLS.

Dr. ROBERT BARNES moved that a vote of condolence with the family of Sir Spencer Wells in their sad bereave-

ment be passed by the Society, and that a copy of the resolution be forwarded by the Secretary. He said that the deceased surgeon was a distinguished man from every point of view; not the least of his achievements was that he did much to free gynæcology from the slur cast upon it by the surgeons of his day. He was mainly instrumental in opening up a large field of work in the department of ovariectomy—a department in which his name would remain associated with his fellow-pioneer, Clay. He was an honour to the profession, and brought merited honour on himself, for he was useful to his country.

Dr. ELDER (Nottingham) seconded the motion. He was sure that they felt indebted to Sir Spencer Wells for the labours which he undertook in placing ovariectomy on a rational basis in this country; and to express their regret at his loss was the least they could do.

The PRESIDENT said he felt sure there needed no show of hands to indicate the unanimous feeling of the Society. They all owed a great debt of gratitude to Sir Spencer Wells, of which this vote of condolence was but the expression.

SPECIMENS.

Mr. F. BOWREMAN JESSETT, F.R.C.S., showed the following:—

Case I.—Case of Hamatocoele.—A. E., aged 37, admitted into hospital January 20, 1897; married, one child, nine months old. Five months ago thinks she had a miscarriage; since then has been continually losing blood *per vaginam*; complains of pain about back and lower abdomen. On examination under ether a tumour is felt, apparently attached to the uterus at its upper and posterior aspects, extending laterally in the broad ligament on the left. The mass moves with the uterus. Sound passes normal distance. January 26.—Cœliotomy was performed, and the growth was found to be intimately adherent to rectum and uterus, and was with some difficulty shelled out; in doing this the cyst

wall burst, and a quantity of black blood clots escaped. The ovary and tube with attached cyst was ligatured and removed. The right tube was found to be also distended; and was removed with the ovary. The left tube, on examination, was found to be distended and full of firm blood clot. The patient rallied well from the operation and progressed favourably until the fifth day, when she was suddenly seized with acute pain in abdomen, followed by vomiting, and, notwithstanding that the abdomen was immediately opened, she died. The *post-mortem* examination revealed acute intestinal obstruction.

Mr. Jessett showed this case as he thought the hæmatocele was the result of a ruptured tube, but not a tubal pregnancy. Care had been exercised to trace any signs of foetal remains but without result. Mr. Jessett thought it was an error to attribute all cases of hæmatocele to ectopic gestation, and although, of course, many were so, yet he considered it was adopting too extreme a view to suggest that it invariably was so, as taught by some authorities. The other point of interest in the case was that the patient was doing well for the first five days, the bowels had been relieved, abdomen flaccid, and patient taking her nourishment well, when quite suddenly she was seized with all the signs of acute intestinal obstruction and died.

Case II.—Carcinoma of the Body of the Uterus.—The patient was a lady about 56, who had been seen by Dr. Clement Godson in consultation with Dr. Morton. He diagnosed carcinoma of the fundus of the uterus, and asked me to see the case with him, and I quite agreed with his views. Vaginal hysterectomy was advised. The operation was performed by me, with the kind assistance of Dr. Clement Godson. The chief feature of the case was the extreme smallness of the vagina, and the difficulty in getting the uterus down. After the uterine arteries had been tied and the peritoneum opened anteriorly and posteriorly, it was found that the uterus was studded with small myomata extending into the broad ligament, and it was

only with some difficulty that Doyen's broad ligament forceps were applied and the uterus removed. The patient made an excellent recovery.

Case III.—A Case of Uterine Carcinoma complicated by Dermoid Cyst of Ovary.—The specimen was shown, as Mr. Jessett said in his experience such a complication was very uncommon. There was no very special difficulty in the operation, and the patient made an excellent recovery.

Dr. HEYWOOD SMITH thought that the first specimen ought to be further examined, to see if it were a case of ectopic gestation. He would ask Mr. Jessett whether, at the autopsy, a decidua was found in the uterus? If it was not a case of ectopic gestation, how was it that rupture occurred, instead of the blood passing down into the uterus?

The PRESIDENT said that one of the chief points of interest was as to the cause of the intestinal obstruction in the first case; and another was the question of diagnosis of the true nature of the hæmatocele.

Dr. HERBERT SNOW quoted the case of a young woman he had just operated on for urethral caruncle, who was six weeks pregnant, and who subsequently miscarried, passing a non-ruptured cyst as large as a pigeon's egg, in which the most careful examination failed to detect a trace of the embryo. He thought if complete absorption could take place under such conditions, it was rash to conclude that Mr. Jessett's case was not one of gestation. He would like to ask if the patient had opium in any shape after the operation?

Dr. PURCELL noted that in the second case no ligature was used; and he could readily understand that there was not much room for such manipulations in a small vagina, unless the perinæum were divided. He saw the operation in the third case; the cyst came down at the same time as the uterus was drawn down; and in this case also clamps were used. He thought that Mr. Jessett could in no way be held responsible for the intestinal obstruction in the first case; certainly there was nothing in the operation to determine the fatal result.

Dr. MACNAUGHTON-JONES remarked on the highly ambiguous meaning of the term "pelvic hæmatocele." As commonly used it was extremely vague, and was applied to conditions widely different in their surgical and anatomical relations. This led to confusion, both in diagnosis and treatment. As to the specimen shown by Mr. Jessett, he might remark that though ectopic gestation was a frequent cause of pelvic hæmorrhage, the fact that so-called "hæmatocele," due to various causes, and in different situations, might occur independently of pregnancy, was now generally recognised by authorities. Regarding intestinal obstruction after laparotomy, he should say there was no more anxious complication, nor one more difficult to define the cause of. The diagnosis of obstruction from septic peritonitis, adhesive peritonitis, appendicitis, ileus, kink in the bowel as in Mr. Jessett's case, or strangulation, was difficult, and could only be determined by such symptoms as the mode of onset and time of occurrence, the situation and character of the pain, the shape of the abdomen, and its sensitiveness.

Dr. GODSON said that the second case was a patient from whom he had removed a polypus by means of the *écraseur*, fourteen or fifteen years ago. She remained well till eighteen months ago, and then came complaining of hæmorrhage, but no pain. She thought it was only a case of return of the periods; but the regularity was doubtful, and her age made him suspicious, and when, a little later, she had an offensive discharge, he had little doubt that she had malignant disease. The uterus was slightly enlarged, but mobile. The presence of the small fibroids was not recognised till the uterus was drawn down. She had made a good recovery, and he congratulated Mr. Jessett on the result. The malignant nature of the disease was confirmed by microscopic examination.

Mr. BOWREMAN JESSETT, in reply, said that no microscopic examination had been made in the first case; but there was no decidua in the uterus. No opium had been given. He could not see the analogy between Dr. Snow's case

and his own ; and, as Dr. Macnaughton-Jones had pointed out, the connection of hæmatocele with ectopic gestation was not nearly so frequent as they had lately been led to suppose. Some went so far as to say that most, if not all, cases of hæmatocele were due to ectopic gestation, but he joined issue. Intestinal obstruction was a thing he had always dreaded after laparotomy ; he never felt happy with these cases till he knew that flatus or fæces had been passed. He thought, referring to Dr. Purcell's remarks, that the splitting of the perinæum should always be avoided, whenever possible.

Endothelioma of the Ovary, and Section of Fallopian Tube removed for Salpingitis.—Dr. MACNAUGHTON-JONES showed a section from an endotheliomatous ovary, prepared by Dr. Ludwig Pick, and also a section of a Fallopian tube which he had seen removed from a patient, and stained and mounted, within twelve minutes after its removal, by this pathologist's method.

PRESIDENTIAL ADDRESS ON THE RELATION OF GYNÆCOLOGY TO SURGERY.

By A. W. MAYO ROBSON, F.R.C.S., &c. ; President of the British Gynæcological Society, Professor of Surgery in Yorkshire College, and Senior Surgeon to the Leeds General Infirmary.

GENTLEMEN,—Though at first I hesitated in entertaining your kind offer of the distinguished and honourable post of President of the British Gynæcological Society for the double reason of my living away from the metropolis, and of my being a general surgeon, I had not long to hesitate, after the kind manner in which my friend our late president, Dr. Clement Godson, pointed out to me that my election by the council was unanimous, and, moreover, that the Society was a British, and not merely a London one. My last objection, that I was a general surgeon, after mature consideration I was myself able to waive, for on looking through

the records of the Society as shown in our excellent journal, I was reminded that by far the greater part of the work of the Society consists of pure surgery, and particularly of abdominal surgery, to which I have allotted not a little of my time. It has always seemed to me that gynæcology, though easy of definition, is one of those specialities which can only be thoroughly grasped with difficulty, since it involves a knowledge of the three branches of our art—medicine, surgery, and obstetrics; nor do I see how any man can be a good gynæcologist who is not well acquainted with pathology, and at the same time with the home life, habits, and slighter ailments of patients, in the manner which can be only obtained by one who has had some experience in general practice.

A gynæcologist may, then, be a physician, surgeon, or obstetrician, or all combined, and in a Society like this, where every branch of gynæcology is represented, we ought to be able to arrive at the truth in any subject of gynæcological interest which is brought forward for consideration.

In the short time which an opening address is expected to take up, I should like to dwell for a few minutes on the relation which surgery bears to gynæcology, and I think I shall be able to point out that it is only since surgery has asserted its importance in the treatment of diseases peculiar to women that gynæcology has attained to the important position which it now holds.

We have not to go back many decades to find the time when a gynæcologist was fully armed in possessing a few pessaries with a speculum and a lunar caustic stick, and I am old enough to remember when nearly every suffering woman with a pelvic ailment was thought hysterical, and neither a fit subject for medical treatment nor sympathy. To call to mind the opinions of those who doubted there were such ailments as hydro- or pyo-salpinx, and curiously enough supported their arguments by appeals to *post-mortem* records. To recollect when extra-uterine gestation was an almost unknown ailment, and when death from internal

hæmorrhage was considered a sufficient explanation to satisfy all requirements. To call to mind numbers of women, dying in a state of collapse from a ruptured pregnant tube, who would now be almost to a certainty saved by operation. To remember when that barbarous procedure, craniotomy, was a thing of frequent occurrence in case of difficult delivery, instead of being reserved for very exceptional cases, and only resorted to when the child is dead and other more purely surgical means are unavailable or have failed. To recollect when myoma uteri was supposed to be a trifling disorder, and to claim its numerous victims from hæmorrhage, exhaustion, or sepsis, without a question of operation being raised, except in the case of polypus; and when women with cancer of the uterus were condemned to a lingering and painful death, without hope of relief or prolongation of life.

There are some among us who can even go further back and call to mind the time when that most successful operation, ovariectomy, was considered ruthless slaughter. The change is so great, and has occurred in so short a time, that we might almost term it the "Renaissance of Gynæcology."

To what is all the change due? Doubtless much is dependent on an increased and truer knowledge of the pathology of the diseases peculiar to women and to a more rational therapeutics; but who will venture to argue that the chief reason for the "reformation" is not the all-round improvement in surgery, thanks to the genius of our fellow-countryman, Lord Lister, whom all the world delights to honour, and whose elevation to the peerage is a source of congratulation, not only to the noble profession to which he belongs, but to the statesman who advised it and to the country which has received it with acclamation?

What would our forefathers, who went to their rest before the seventies, say, could they come among us and pick up our quarterly Journal or other medical periodicals? Would not they hold up their hands in pure astonishment to read the papers and discussions of last year on "Intra-

peritoneal Hysterectomy" and "Pan-Hysterectomy for Myoma," or those on "Hysterectomy for Cancer," showing not only an extremely small mortality for such formidable operations, but the greatest amount of relief to suffering.

Would not they be surprised to find that ovariectomy is now performed with an all-round mortality of 5 per cent. or less; that a ruptured extra-uterine gestation is no longer almost certain death, but in proper hands means an almost certain recovery; that abdominal hysterectomy for myoma involves actually little more risk than ovariectomy; that hysterectomy for cancer is successful so far as life is concerned in from 90 to 95 per cent., and that Cæsarian section and Porro's operation are undertaken with the expectation of recovery to mother and child in a very large percentage of cases?

I think, too, they would be equally astonished to hear that our lying-in charities, as shown in our late President's valedictory address, are no longer the death-traps which they once were, which could only be referred to with bated breath; but that they constitute the most valued and useful of the charitable institutions of the kingdom, where the poor pregnant woman may enter, feeling that she is placing herself under the most favourable conditions for passing through her ordeal of maternity.

When we hear of the almost complete absence of mortality in a series of several thousand puerperal cases, and of the almost entire absence of septic complications, the fact must be strongly borne home to us that although many of the complications met with after child-birth are directly or indirectly due to pre-existing inflammatory or other affections of the reproductive organs, the modern methods of antisepsis are so far able to minimise or neutralise their dangers that even in such cases puerperal septicæmia need not be apprehended, and that, should it occur, we must not ordinarily consider the septicæmia as being auto- but hetero-genetic.

The more nearly we look on obstetric medicine from

the surgical standpoint, and consider a pregnant woman approaching the full term as a patient being prepared for operation, on the accouchement as being the operation, and on the puerperal period as requiring the same care and after-treatment that would be given to a grave surgical case, so the more nearly will the ideal results presented by Dr. Godson be attained.

Moreover, though from the anatomy of the parts involved and the peculiarity of the circumstances attending the special operation, the after complications, if any, require special treatment, there is nothing special in the principles which have to be carried out in treating such complications, and the accoucheur who has had a good surgical training will be best fitted to deal with them.

Asepsis or antiseptis is one of the chief questions at present exercising the mind of the surgeon, whether gynæcologist or general, and I hope it will not be thought wasted time if I give my views on the subject, as owing to the almost aggressive attitude which has been taken up by some of the asepticians as opposed to the antisepticians, there is a fear lest the pendulum should be allowed to swing too far, and in straining at the gnat the camel should be swallowed.

To begin with, I grant that asepsis would be preferable to antiseptis if it were practicable.

Metchnikoff has clearly shown that nature provides us with an army of cells ever ready to do warfare with our ubiquitous minute enemies ; were it not so life would be impossible.

Thus is explained the success that attended many operations before the reformation in surgery ; but the mortality which then occurred clearly demonstrated that nature unaided was only exceptionally equal to the combat.

It was then a question—first, as to the dose of the poison ; and, secondly, as to the strength of the resisting force.

If the former was “+” and the latter “—” in quantity, septicæmia and death resulted, and *vice versâ*.

Asepsis aims at reducing the invading force to a minus quantity, without the use of any antiseptic, and its doctrine is simple so far as the surgeon and his instruments are concerned, for it may be summed up in the one word "sterilisation." In many cases, as in an ordinary ovariectomy, where we begin with a clean unbroken skin, it is quite possible to perform a strictly aseptic operation with perfect results ; but, unfortunately, we have other factors to consider, which we cannot reduce to such accurate mathematical precision, in the shape of the patient and the surroundings.

I will illustrate my meaning by two examples :—Supposing an obstetrician be called to attend a patient whose vulvæ are not overclean, who is suffering from an offensive vaginal discharge, and whose cervix is occupied by unhealthy granulations, cancerous or otherwise, could he rely on syringing with boiled water to purify the parts, or would he rather not feel it safer to employ some well-known and tried antiseptic such as a 1 in 1,000 perchloride solution ? Or, again, as in a case under my care in the Leeds Infirmary of compound fracture of the patella with the knee-joint full of filth from the street, could I have hoped to secure union by first intention by the use of simple boiled water, which, however, I did obtain by scrubbing out the joint with a solution of biniodide of mercury ?

What are the arguments used by the asepticians as opposed to the antisepticians ?—

First, that antiseptics are of doubtful value ;

Secondly, that they injuriously affect the tissues ;

Thirdly, that they produce general toxic symptoms ; and

Fourthly, that they may produce temporary or persistent lesions of exceptional gravity, such as nephritis or diarrhœa.

The last three arguments may be disposed of in one answer—that, if not employed too strong, and if after employing the antiseptic solution it be washed away by some bland fluid, such as boiled water or boric lotion, no harm will result from their use.

Moreover, I am able to personally prove this up to the hilt by my experience in many hundreds of general and gynæcological operations performed without any of these untoward effects.

The first argument is advanced with regard to spores, and in repeating some years ago the late Professor Tyndall's experiments on the dust in the air, I became soon aware of the difficulty of killing these resting spores, which may require boiling once, twice, or thrice, at several hours' intervals before the solution is sterile ; but the same difficulties do not arise in the tissues, as the bacteria and bacilli and their spores are soft and moist, and are more easily attacked and destroyed by antiseptics, or even if not killed, as the asepticians argue, they are rendered less potent, so that the phagocytes are capable of taking them up and destroying them. Whatever test-tube experiments may apparently demonstrate to be the case outside the body, clinical experience proves that when antiseptics are employed in a wound they so influence germs as to make them impotent, whether they kill or merely paralyse them.

While in surgical homes or in special hospitals it is easy to carry out asepsis and to isolate cases not suitable for aseptic treatment, in general hospitals and at the homes of patients it is much more difficult ; and to leave off antiseptic treatment would, I feel sure, lead to many failures and to numerous disasters. I therefore prefer to modify my practice according to circumstances, and while I always adopt all the precautions employed by the aseptician for sterilising hands, instruments, and sponges, and for keeping a wound aseptic, I as a rule use a 1 in 40 carbolic solution for instruments and sponges and a 1 in 2,000 biniodide of mercury solution for the hands. In aseptic cases it is unnecessary, but in septic cases I do not hesitate to apply the solution freely to the tissues. Thus, I think, are obtained all the benefits claimed by the aseptician without the dangers or disadvantages he describes, whilst avoiding some of the risks of failure that he incurs in eschewing antiseptics.

Why should we be anxious to disclaim antisepticism when it brings us results such as our late President can show in obstetric practice, and as many of us can demonstrate in gynaecological or in general surgery? As showing what antiseptics have done in a large general hospital I would refer to the work of the Leeds Infirmary, and compare the mortality of 1870 with that of twenty-five years later.

In the former year there were in all 469 operations performed with a mortality of 6·6 per cent.; in the latter year there were 5,039 operations, with a total mortality of only 1·2 per cent., although in the later period the magnitude of the operations performed was in many cases infinitely greater than in the former.

Perhaps in no class of cases has greater progress to be recorded than in abdominal diseases, which formerly were for the most part treated expectantly in the medical wards. For instance, in the reports for 1870 and 1871, under the heading "Abdominal Section," no case is recorded; in other words, the peritoneal cavity was only opened for ovariectomy and for strangulated hernia; whereas in the two years 1893 and 1894 573 patients had abdominal section performed in the hospital, the all-round mortality—including malignant cases, strangulation of gut, cases of acute intestinal obstruction, internal gangrene, suppurative peritonitis, &c.—showing a percentage of 12·2, or a saving of life in 87·8 per cent. The statistics of ovariectomy in the hospital twenty-five years ago were so bad that tapping was frequently resorted to in order to defer the major operation, and, even in 1875, twelve patients were thus treated, and only seven were submitted to the radical operation. Out of these seven, five died, yielding a mortality of 71·3 per cent. On the other hand, in the years 1893 and 1894, ovariectomy was performed 132 times with 123 recoveries, giving a mortality of 6·8 per cent., and seeing that this included malignant cases as well as patients extremely ill in other ways, the mortality is one of which no general hospital need feel ashamed; for it must be borne in mind

that statistics were in no way considered, and if an operation offered any chance of giving relief it was resorted to. Only a few years ago it was the custom to treat these cases in single wards and to have two special nurses for each, but as the work increased this was found to be impracticable, it being impossible either to provide sufficient small wards or nurses, and it soon became manifest that the patients treated in the general wards recovered equally well, or even better, than those that were isolated. Hence isolation was given up, and it is now the custom to operate on those cases in the theatre and to remove them to the general wards, just as is done with other surgical cases.

In looking through the records of the Society, I can find among the numerous communications comparatively little reference to medical treatment, yet every gynæcologist is probably employing remedial agents and methods other than operative in the treatment of the diseases peculiar to women, and some the experience of which might be of great service to the Society. For instance, it would be most interesting to have further records of the trial of various animal extracts in the treatment of uterine and breast cancer and in other uterine tumours. The Glasgow School of Gynæcologists have been recently advocating their employment, either alone or along with surgical treatment, and have reported so favourably of their utility that further trials are called for.

It would be of interest to the Society and to gynæcologists in general if any of our Fellows could throw light on those conditions of pain starting in the pelvis over one or both ovaries, and yet not allied with any manifest gross organic lesion, and which, though in most cases associated with a neurotic temperament, must, if we could only find it out, have some definite and distinct cause. These cases should probably, according to our present light, be treated by medical and general means rather than by any mutilating operations, which have too often been tried and found wanting. I hope during the session we may have the

benefit of the experience of some of our Fellows on the use of antistreptococcus serum in the treatment of some of the acute inflammatory affections which are apt to occur in gynæcological and obstetric practice, for I cannot but think that the treatment has a great future before it in a class of cases attended both with imminent danger of life and with great anxiety to the medical attendant.

In the *British Medical Journal* for January 2 of this year is a short paper by Dr. Law, of Sidcup, on a case of acute septic general peritonitis with septic metritis, treated successfully by antitoxic serum injections, which is well worthy of study, as is also the paper by Dr. Moorhead, of the Cootehill Union Infirmary, in the *British Medical Journal* for January 23, 1897, on the use of the same agent in a case of acute puerperal septicæmia.

These, along with other reported cases, show that the use of the antistreptococcus serum is a most potent remedy which the surgeon or obstetrician should not lose sight of in some of the desperate cases which at times come under his care.

There are many other matters in our special branch of work which require elucidation, many methods which require modification, many practices which require amendment, and some extreme views which require tempering. We have in our Society no lack of brains and no little enthusiasm, and as we possess a vast amount of experience of every branch of our art, I feel sure that we have it within our power, as I know it is our intention, to do much valuable work, and work of such stability that it must disarm all hostile criticism, and give our Society a place in the first ranks of science.

Dr. C. H. F. ROUTH moved that a hearty vote of thanks be given to the President for his interesting address, and that he allow it to be printed in the Journal of the Society. He said he had heard many learned discourses, but had not heard one marked by more sterling common sense. Those were despicable times in the past, in which everyone who

practised gynæcology was looked upon as an inferior member of the profession. He could remember the time when professors knew less of gynæcology than the tyro of to-day. But in spite of the advances of gynæcology, they must not neglect medicine and surgery; those who had the best knowledge of these branches became the best gynæcologists. The neglect of these led to extremes in gynæcology, such as not operating at all, or operating too much. It was a great advantage in this Society that they were able to go out of London for their President, and find talent in the Provinces, and by the interchange of many opinions they were able to get nearer the truth.

Dr. GODSON seconded the motion, and thanked Professor Mayo Robson for his kind remarks about his valedictory address.

Dr. ROUTH put the motion, which was carried with acclamation.

The PRESIDENT briefly returned thanks.

Exhibition of Gynæcological Appliances. — Dr. MACNAUGHTON-JONES, by special request, showed some gynæcological instruments and appliances which he had recently seen used in the Frauenkliniks in Berlin, more particularly those necessary for Martin's colpotomy, and Landau's vaginal pan-hysterectomy. The particulars of these operations, and figures of the appliances referred to, appeared in the February number of this Journal, in the paper "Gynæcology in Berlin," by Dr. Macnaughton-Jones. Having briefly described the steps of these operations, he showed the instruments and appliances used in each, including Orthmann's instrument, a combination of uterine sound with claw forceps, which, in the former operation, is used to steady and draw down the uterus. It is also of great value in other operative procedures on the uterus and adnexa. Landau's operation, in which clamps alone are used, has now been performed some four hundred times, with a mortality of little over 2 per cent. He claims for it that it can be performed in cases in which any other

form of hysterectomy would be impossible. Dr. Macnaughton-Jones also showed Landau's combination of branched dilator with trocar and canula, most convenient for opening pelvic abscesses, and the special needles of Olshausen for ligaturing the uterine and ovarian vessels. He also exhibited an electric lamp with a reflector which could be attached to any electrical connection, and is specially useful in the Trendelenburg position, being capable of throwing a light of two hundred candle power into the basin of the pelvis.

The PRESIDENT said that some of the instruments were new to them, and some of the methods would no doubt be followed out later by British gynæcologists ; in any case they were glad to see the instruments, and were much obliged to Dr. Macnaughton-Jones for kindly showing them.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, MARCH 11, 1897.

PROF. MAYO ROBSON, F.R.C.S., PRESIDENT, IN THE CHAIR.

PRESENT : 32 Fellows and Visitors.

The following gentlemen were elected Fellows of the Society :—H. J. Robson, M.R.C.S., Leeds ; H. E. Whitehead, M.R.C.S., London ; B. L. Eastman, M.D., New York ; J. B. Hellier, M.D., Leeds ; M'Gregor Young, M.B., Leeds.

J. W. Williams, M.R.C.S., was proposed for election to the Fellowship of the Society.

A FIBRO-MYOMATOUS UTERUS REMOVED BY THE COMBINED METHOD, VIZ., PAN-HYSTERECTOMY. By F. A. PURCELL, M.D., Surgeon to the Cancer Hospital.

Case of E. W., a married woman, aged 36, admitted to the Cancer Hospital, December 29, 1896. Suffered from abdominal pains for seven or eight years, and also great losses at menstrual period. These symptoms were much worse during the last eighteen months. Pain frequently shooting down the legs. Defæcation and micturition interfered with, the latter sometimes not being under control. No swelling of the legs. No emaciation. No previous severe illness. She had had no children, nor miscarriages ; was regular up to the beginning of the present illness.

On examination, per vaginam, os found granular, pointing backwards ; a solid circumscribed swelling connected with the uterus felt through the abdominal walls and in Douglas' pouch. Pan-hysterectomy advised.

January 16, 1897.—Patient was anaesthetised by ether,

the abdomen was opened in the middle line, the broad ligaments were divided *in situ*. The adnexæ remained adherent to the uterus; a *tire-bouchon* was inserted into the uterine myoma, and by its aid the tumour was drawn outside the abdomen.

Patient was then raised into Trendelenberg's position, when the anterior peritoneal flap was divided across above bladder line and dissected down to the neck and os; the posterior flap was then made. The vagina was entered from behind and the incision carried round; in doing this the uterine artery, first on one side, then on the other, was cut, and as seen spurting was seized with clamp forceps; the tumour was freed and withdrawn. The uterine arteries were tied with ease, these ligatures were left with one thread long, all the other ligatures on the pelvic stumps were cut short.

The peritoneal flaps were then sutured by three silk threads in the manner suggested by Mr. Jessett; these flap sutures were caught by a long pair of forceps passed up through a speculum inserted into the vagina, and drawn down, as also the ligatures placed on the uterine arteries. The serous surfaces of the peritoneal flaps were thus brought into close apposition. Very little blood was lost. The pelvis was cleaned, and the patient was lowered into the horizontal position. The abdominal wound was closed in the usual manner. The ligature threads and the flap sutures were drawn down taut and arranged, and the vagina was loosely packed with iodoform gauze. There was no hitch in the operation, which occupied forty minutes.

The three flap sutures were removed on the fourth day after; the vaginal gauze packing was very slightly soiled. The bowels were moved same day by a saline draught, assisted by a simple enema. Temperature, which had risen to 101° F., fell to normal. Urine copious; slept well and complained of no pain.

January 28, thirteenth day.—Began to be troubled by a slight cough. Temperature, up to this normal, rose to 101.4° F. No vaginal discharge. Abdomen flat. Bowels

and urine normal. Sleeps well. A slight embolism of right lung denoted by crepitation.

February 3, nineteenth day.—A small quantity of pus was squeezed out of one of the suture holes in the abdomen. Stomach flat. Since the 28th, her temperature varied between $99\cdot6^{\circ}$ and $100\cdot6^{\circ}$, rose this morning to $101\cdot6^{\circ}$. Bowels well moved, urine plenty; *râles* noticed on right side of chest; sleeps well. Afternoon, 2 p.m.—Patient for the first time complained to the nurse of suffering great pain in her left leg, which, on being examined, was found swollen and discoloured. Nurse at once reported the change, and Mr. Jessett, who was in the hospital, saw her. He ordered a solution of glycerine and belladonna to be painted along the front of thigh and leg, and had the entire leg wrapped up in heated cotton wool, and hot-water bags placed in the bed. Champagne and brandy given, and a carbonate of ammonia mixture. Thrombosis of the common femoral and iliac vein had taken place suddenly.

Evening, 6 p.m.—Temperature fell to 98° , and a second pulmonary embolism supervening, she died suddenly, it being the nineteenth day after operation. No *post-mortem* was allowed.

I have to thank my house-surgeon, Mr. C. Ryall, for his unremitting care of the case. He has favoured me with the following description of the specimen:—"The uterus was generally enlarged and the walls much thickened. Cavity dilated and irregular; length from os internum, four inches. Both Fallopian tubes, but especially the left, were tortuous, much thickened and dilated. In the posterior uterine wall was a large circumscribed tumour, extending through the whole thickness of the uterine wall and slightly projecting from the peritoneal surface into Douglas' pouch. Anteriorly were found distinct tumours lying together, beneath the endometrium and projecting into the uterine cavity."

It is to be hoped that undue coagulability of the blood could be recognised and remedied and thrombosis thus prevented; perhaps most cases of spontaneous thrombosis

were chlorotic, for they primarily depended on the condition of the blood and not on phlebitis. No examination of the blood had been made.

Dr. MACPHERSON LAWRIE (Weymouth) congratulated Dr. Purcell on the success of the operation itself, though the result was unfortunate. He had had a similar case recently; the patient went on well for several days, then she got a series of attacks of retching, to which she had been subject for several years, and in one of these attacks she brought up a large quantity of blood, and died in a few hours. This was probably accidental as far as the operation itself was concerned.

Dr. GRANVILLE BANTOCK said he did not gather why Dr. Purcell performed this particular operation. He had been himself accustomed to perform a much less serious operation in similar cases, and could not see why men resorted to such a severe procedure as pan-hysterectomy. He did not understand that this patient had had hæmorrhage, or other important symptoms, and he would be glad to hear that there was justification for the operation.

Dr. ELDER (Nottingham) said he would like to know why enucleation was not done; judging from the specimen and photo, this would have been possible, without the necessity for removing the whole uterus.

Dr. PURCELL, in reply, said that, as he had remarked in his notes, this patient had suffered great distress from troubles with micturition and defæcation as well as from hæmorrhage; she was consequently in a weakened condition. As regards enucleation, it would have been necessary to greatly dilate the uterine canal to even discover that enucleation was possible. The only other possible operation in such a case was Péan's morcellement; but the tumour here was undoubtedly too large to admit of this. The vagina being small and not distendable, the woman never having had a child, an attempt at enucleation or removal by morcellement was out of the question, and could not be entertained; therefore abdominal hysterectomy remained the only feasible method.

SPECIMENS.

The PRESIDENT showed a specimen and read the notes of a case in connection with Mr. N. Radcliffe Husband, M.R.C.S. and L.R.C.P., Hon. Surgeon to the Ripon Hospital, of

PORRO'S OPERATION FOR SUPPURATING OVARIAN CYST
COMPLETELY BLOCKING THE PELVIS.

I received a letter from my friend Mr. Husband on January 25, 1897, saying that he had a patient advanced in pregnancy whose pelvis was blocked up by a tumour.

On June 30 I received a second letter to say, "At a consultation of the staff of the hospital this morning it was the wish of every one that you should be asked to come and see the patient, and if you think it advisable perform the operation." On February 2 I went to Ripon and found the patient, a woman of 23, extremely ill, with a rapid pulse and a temperature of 103° . She had had a rigor on the 31st, and the temperature had reached 105° . The pulse was very rapid, the abdomen enormously distended, the face pinched and anxious, and the condition generally extremely unsatisfactory. A pelvic examination revealed a soft tumour present in the pelvis, and as high as the finger could reach behind the pubes could be felt the os uteri. The foetal heart could be heard. Delivery *per vias naturales* was manifestly impossible, and the patient if left must certainly die as well as her child. In the presence and with the consent of the whole staff of the hospital, all the members being present, abdominal section was at once performed, and the uterus incised by a vertical incision. Mr. Husband grasped the edges of the uterus to prevent bleeding, and I extracted the child and handed it over to Mr. Collier. I then passed my hand behind the uterus and drew it forward, and immediately the abdomen was flooded with most offensive pus, which had been con-

fined in a cavity formed by intestines above by the uterus in front, and by the ovarian cyst, itself full of pus, below. As it was manifestly unsafe to perform Cæsarian section I passed the wire of a *serre-nœud* around the uterus as low as I could safely go after detaching adherent omentum and intestine, and amputated the uterus and the ovarian tumour together, as shown in the specimen. I then washed out the abdomen with hot boracic lotion, and sutured the wound in the ordinary way, leaving a long glass tube in the pelvis. I have not seen the patient since, but have had regular reports from Mr. Husband, to whose skill in the after treatment the patient's recovery is, in a great measure, due. The drainage tube was removed the next day. The wire of the *serre-nœud* came off early, soon after the week, and the stump was kept dry. The chart shows that the temperature fell to normal immediately and remained so. Both mother and child are now well.

DISCUSSION ON DR. BEATSON'S METHOD OF TREATMENT OF INOPERABLE CARCINOMA.

Mr. ARMSTRONG (Buxton) said that he had been invited some time ago to make a communication to the Society on what he had seen in Glasgow of Dr. Beatson's method of treating carcinoma, and being much impressed with the principles involved, he expressed his willingness to comply, and the more so, that he had been much struck by the candid and scientific attitude of Dr. Beatson himself with reference to the cases treated by this method, and the deductions to be made from them. Before the meeting, the President and Council invited Dr. Beatson to come up to join in the discussion; and as they had the pleasure of Dr. Beatson's presence that evening, he felt sure that he could not do better than to simply explain to the Fellows how it was that he came to be introducing the discussion, and to leave in the more capable hands of Dr. Beatson the task of explaining the principles of the treatment, and the results obtained by it up to the present time.

Dr. BEATSON (Glasgow) said that when he received from Dr. Armstrong the invitation of the Council he at first hesitated, because he thought that it might seem as if he had something fresh to communicate ; at the same time, he felt that after a paper such as he had written on the subject, he ought, if called upon, to appear to explain his method in further detail. In the first case to which Dr. Armstrong had referred, the mamma, axillary glands, and part of the pectoral muscle had been removed and found to be cancerous ; three months later the disease again manifested itself, and the case was considered hopeless for operation. Thyroid was given to a physiological extent, but in vain. The tubes and ovaries were then removed, and the thyroid again pushed. In little more than two months she was much improved ; in five months the malignant tissue had become yellow and fatty, and in six it had gone ; now, at the end of twenty-one months, the tissues were sound and the woman was in good health. The value of the case to him was that it seemed to throw some light on the nature of carcinoma, and the only question was as to the right of interpretation of the facts of the case. In the early stages cancer was a mysterious disease ; in the later stages it was not so, because, thanks to the labours of pathologists, its course had become tolerably well known. They were all agreed that carcinoma is an epithelial formation, that it spreads locally and at a distance, that it breeds true, and eventually proves fatal. These points they need not discuss. The three points, as he thought, to be considered were :—(a) The possible mode of origin of the epithelial cancer cells ; (b) The relation of the cancer cells to surrounding tissues ; (c) The exciting cause of the cell proliferation. (a) *The origin of the cancer cells.* Did these cells come from the normal epithelium of the part, or had they an independent origin ? The view held in Glasgow was that the normal cells of the part became gradually transformed to cancer cells, *i.e.*, it seemed that the epithelium of the part had taken on a special action, whereby area after area was by degrees invaded. In short, according to this

view, cancer was a local infection. The value of recurrent and secondary growths and nodules was that they gave an idea as to the origin of the growth. To take the case of a cancer of the liver, secondary to cancer of the breast, they found that the breast cells had become transplanted in the liver, while there was no proliferation of the liver cells themselves. Now, if the whole growth in the liver had arisen from the proliferation of a cell implanted there from elsewhere, why might not such a process have been at work in the first place? In other words, it might be held, not that the proliferation of the epithelium in the primary growth was a sign of a starting rebellion in the tissues, but rather, that it was an indication of a protective process in view of impending danger, a measure of defence against the hostile cells which were advancing to the destruction of the tissues locally, and of the body at large. (b) *The relation of the cancer cells to the surrounding tissues.* There was an idea new growths have an independent existence; yet each element of such growths was dependent for its existence on nutrition supplied by the surrounding tissues. He would glance at these nutritive conditions. In the masses of epithelial cells of a fast-growing carcinoma they found no blood vessels; therefore, the growth must be nourished by surrounding lymph and by neighbouring cells; from this he concluded that carcinoma cells must live on these neighbouring cells. This view explained the fact that some tissues were very resistant to cancer; some tissues formed better pabulum than others; of course, in any case, the growth must eventually depend on the lymph for its nourishment. At the periphery of the growth the best pabulum was found, and the lymph was most abundant; the original cells were there found degenerate, and the growth of the tumour was rapid. These considerations also explained the different course of carcinoma in different people. In the central parts of the growth, owing to lack of nourishment, the cancer cells tended to break down, with a fatty, hyaline or mucoid degeneration; and the oldest

portions were in consequence inert. One of the most interesting cases from this standpoint was one related by Coats, in which the tissues were reduced to a mass of degenerate cells, but no actual new growth was found in the secondary emboli and thrombi. (c) *The exciting cause of the cell-proliferation.* An answer to this question would give the key to the whole position; and here they entered into the realms of speculation. The most recent explanation was the parasitic theory. This he could not endorse, as he did not consider it to be proved. A second explanation was Cohnheim's theory of the inclusion of epithelial cells. A third explanation was based on Goodsir's paper on nutritive centres. Goodsir held that every organ had a nutritive centre in the shape of a few cells, which normally disappear after they have done their work, and which, if they persist, may give rise to new growths. The whole paper was very suggestive. He had ventured to put forward another theory, that the explanation was to be found in the supposition that the cancer growth was due to a return on the part of the cells of the growth to the activity of the germinal epithelium. In all cells there was a certain reproductive power, which became lessened by the specialisation of the cells; but after this specialisation subsided, the reproductive activity might re-awaken, though they did not know what was the potentiality of cells with regard to their reproductive power. It had seemed to him possible that in the case of the breast actual germinal cells might be present, derived from the ovary. But in any case the influence of ovaries and testes on local cell-activity was well known, as illustrated by the growth of the antlers of the stag.

What, then, was the explanation of the cases to which Dr. Armstrong had referred? Two suppositions could be offered: (1) that it was possible to influence the proliferation of the cancer-cells; (2) that it was possible to influence the tissues in which they lived. If cancer started from a single cell, probably it would not be possible after a time to

influence the growth itself. If, on the other hand, the change was one from normal to abnormal epithelium, it would be susceptible of greater influence, by acting on the surrounding tissues. The treatment of osteomalacia by removal of the ovaries showed that such an influence could be brought to bear; and so also in dealing with cancer, the removal of ovaries or testes might exercise a marked influence on the growth. Further, he believed that in thyroid extract they had an important auxiliary substance. The nature of its action was not known, beyond this, that it appeared to modify the lymphatic elements and channels; and it was through these channels that the spread of cancer occurred. The action of thyroid extracts on lymph channels and spaces was seen in the case of myxoedema and lupus. He believed, therefore, that by the removal of the ovaries and by the administration of thyroid extract it was possible to considerably modify the cancer process. In the cases quoted it was evident that the cancer first lost its vascularity, then became fatty, and finally disappeared, whilst the tissues reverted to the condition of a healthy scar. Since the first series of cases, he had treated other cases in the same way, including five breast cancers, but in not one of the latter had there been success. In the first the right breast had been removed; her condition was very unfavourable, but he first gave the thyroid extract, then removed the ovaries. For a month there was improvement, especially in the direction of freer movement and diminished pain. Then she became worse, and died of secondary deposits in the liver. In the second case the left breast had been removed; there was recurrence. The same treatment was adopted as in the previous case, and for five months she was better, after which the course was as in the first case. The other three cases were somewhat similar; so that he was forced to the conclusion that after the growth had reached a certain point the treatment was useless. Then he tried it in cases of uterine cancer. There was certainly less hæmorrhage and destruction of tissues afterwards; but

one died of surgical kidney, one of involvement of the ureters, and two others, though still alive, were not much better. His observations were all in favour of early and wide removal of cancer, but the results of such early removal supported his theory. After removal, if recurrence took place, the removal of the ovaries and tubes might be tried if the patient were young; if near the menopause he should try the thyroid treatment, and remove the ovaries, but if secondary deposits had occurred he thought further treatment useless. He had brought these cases forward not to boast of them, but to see if any light could be thrown on the subject, for he had kept an open mind in the matter.

The PRESIDENT said that the Society was much indebted to Dr. Beatson for his lucid and honest exposition of his views. Such work was valuable, even if the results were not entirely encouraging. They were all agreed that early and wide removal of cancer was the proper treatment, and he was glad to hear that Dr. Beatson thought so too. Dr. Beatson's remarks were well worth thinking over, and it might certainly be worth while in some cases to adopt the treatment. He would ask Mr. Marmaduke Sheild to give them his views, with special reference to the value of Coley's fluid.

Mr. MARMADUKE SHEILD observed that he was not aware before he came that the discussion was to include a consideration of the nature and origin of cancer. On this point they were still in absolute ignorance. A discussion took place at the Pathological Society, twenty years ago, on this subject, and though it was characterised by exceptional eloquence, it imparted very little exact knowledge. He endorsed the President's remarks in thanking Dr. Beatson for his honesty in bringing forward his failures as well as his successes, and his observations were highly suggestive. As regards the spread of cancer from a focus, they still did not know how soon constitutional infection took place; for instance, in cancer of the breast, an extensive operation

might be undertaken, while secondary deposits had already occurred. This was a blot, if there were one, in Halstead's results ; his cases were not free from metastatic deposits, and very little that they could do would enable them to foresee this complication. He was sorry that Dr. Beatson had both given thyroid and removed the ovaries, for it was, in consequence, difficult to gauge the effect of either measure. As regards thyroid extract, he had seen a good deal of its use in diseases of the skin : its action was to cause much depression of the circulation and of the vital powers, and he had known patients to be much depressed in consequence. The checking of the circulation might have had some effect on the cancer growth. As regards the removal of the ovaries, it was to be noted that cancer generally occurred at or about the menopause, when the ovaries ceased to be active ; but it seemed to him that it might be logical to remove the ovaries in the case of younger women, especially because cancer growth was always much more rapid in such cases, and any treatment that offered a chance of checking this rapidity might very properly be tried. Such operations should only be done after grave consideration. They were only too likely to be abused. In this connection it was a very remarkable fact that in the case of the male, removal of the testes was generally followed by hypertrophy of the breasts ; this was an instance of how little they knew of the conditions of growth. It was a well-known plan of cancer-curiers to treat by means of a milk diet, and to depress the system by free purgation ; by this means retrogression of the growth could sometimes be secured. An illness sometimes had the same effect, and he had seen several instances. Thus, he had a case in which secondary nodules were present ; the patient became ill with pulmonary congestion running on to pneumonia. She took very little food, and when she recovered from her lung troubles the nodules had all disappeared ; but within three months the growth returned, and she died. The natural vagaries of the disease were very peculiar, a fact which they only could

appreciate who had seen a good deal of carcinoma, and this made it difficult to trace the effect of any particular drug. This led him to make a few remarks about *Coley's fluid*. His experience had not been very large, but he had read other people's cases. He had used it himself only in four cases—two of carcinoma and two of sarcoma. *Coley's fluid* was a preparation derived from a cultivation of streptococci and bacillus prodigiosus; the cultivation was filtered and treated so as to give a sterile fluid. The idea was derived from an observation of Fehleisen, that certain growths disappeared under an attack of erysipelas. His observation had been confirmed by others. But, on the other hand, the reverse might occur, and he had himself known two cases at St. George's Hospital, where erysipelas attacked an ulcerating carcinoma of the breast, with a fatal result, and this was a point to be borne in mind. His four cases with *Coley's fluid* were as follows:—(1) Recurrent carcinoma of the breast: he injected with three minims of *Coley's fluid* on six occasions; but it made the patient very ill, and she would not go on with the treatment. (2) A tumour of the breast, with the clinical characters of scirrhus. She would allow of no operation; electricity had been tried. He injected her four times, but it made her very ill, and she would have no more. (3) Sarcoma of the thigh. The growth increased and broke down, and masses soon appeared in the abdomen. (4) Also a case of sarcoma. The nodules disappeared under the injections, but apparently from necrosis; they were not absorbed. The patient died of pyæmia, and general deposits were found in the body, the organism being the staphylococcus; therefore, the patient was probably destroyed by the necrosis of the tissues. Butlin had found it of limited use in sarcoma, but useless for carcinoma. In saying this, he did not wish to cast aspersions on *Coley's treatment*; for in such desperate cases any rational remedy ought to be tried. *Coley* himself, in his last letter, said he limited its use to spindle-celled sarcomata. This remarkable form of sarcoma was very apt to retrogress, especially when it

became inflamed, and Coley's fluid might act here by setting up inflammation, and he believed that a similar effect might follow the injection of tuberculin, or any similar substance. For his part, he thought that Coley's fluid might prove of value in some cases of sarcoma ; but he did not think it would be of any service in carcinoma. In conclusion, he would express the hope that if Dr. Beatson had any further opportunities of testing his method, he would try the two plans separately.

The discussion was then adjourned to the next meeting on the motion of Dr. Bantock, seconded by Mr. Jessett.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, APRIL 8, 1897.

DR. GRANVILLE BANTOCK, VICE-PRESIDENT, IN THE CHAIR.

PRESENT : 32 Fellows and Visitors.

J. W. Williams, M.R.C.S., L.R.C.P., Gospel Oak, London, was elected a Fellow of the Society.

SPECIMENS.

Mr. SKENE KEITH showed a small ovarian cyst of over six years' growth. It was first discovered by Dr. Carmichael, of Pollockshields, as the patient had been married three years and was sterile. Six years afterwards she became pregnant, and operation, which was previously declined, was insisted upon, as the cyst filled the pelvis, and would have prevented delivery. The cyst was unilocular, and was a true cyst of the ovary.

A CASE OF ECTOPIC GESTATION WITH TUBAL RUPTURE.

By F. A. PURCELL, M.D., MCh., Surgeon to the Cancer Hospital.

This case is interesting, inasmuch as the patient had laparotomy twice performed within six months for tubal hæmorrhage.

Mrs. Sarah K., aged 26, mother of one child aged 3 years. She had had no miscarriages; had always been regular, rather copious; being a healthy-looking, well-built woman, although slight.

Admitted to the Cancer Hospital (on the first occasion)

August 20, 1896. She then complained of great abdominal pains, and stated that about six weeks previously, when in the act of retching, she was seized with sudden pain in her left iliac region, which was accompanied by sickness, lasting all the same day; pain was worse after any exertion and towards the end of the day.

On being examined, by abdominal and rectal palpation, and careful vaginal palpation, an elastic swelling was located in the right iliac region, with fulness in the right lateral vaginal fornix, and in Douglas' pouch.

Diagnosis.—Right tubal mischief.

August 29, the patient being anæsthetised, the abdomen was opened in the middle line. On laying open the peritoneum, clots of black blood welled up through the wound; coagulated blood filled the abdomen and pelvis; this was baled out with the hand and sponges. The right Fallopian tube was found much distended and elongated, the fimbriæ were greatly hypertrophied, and the tubal ostium was dilated, holding *in situ* a blood clot about the size of one's thumb. The tube and ovary were removed, the pelvis was dry cleaned, and the abdominal wound closed.

Patient began to menstruate on the fourth day after operation; this continued a normal duration. She made an uninterrupted recovery, and left hospital September 26, 1896. The specimen unfortunately got lost. The question arises whether an ovum had been expelled, and lost in the clots, or whether it was a case of recurrent tubal hæmorrhage?

It may be remarked that her periods had not ceased.

On January 29, 1897, she was admitted on the second occasion. Fifteen days previously (January 12) she presented herself at the out-patient department, saying she was fourteen days over her time, having menstruated December 1—5, and that she suffered pains. As she had always been regular, she suspected pregnancy. At her home, on January 25, she was taken with such violent sickness and extreme abdominal pain, especially in her left

iliac region, that she fainted. Her doctor was sent for, and he applied restoratives and sinapism to the epigastrium. She was brought to the hospital on January 29 in a very collapsed condition, and as if dying; restoratives were given and she gradually improved. She had a slight show the day after admission.

On examination, by abdominal and rectal as also vaginal palpation, a swelling was felt in the left iliac and pelvic region, painful on pressure; the solid substance extended from the middle line to the left, as if the fundus was pressed over, and, though somewhat fixed, moved with the uterus; the sound passed $2\frac{3}{4}$ inches into the uterus; the ovary could be recognised.

Diagnosis.—A ruptured tubal pregnancy. She was kept in bed and gradually improved, no change taking place in the swelling, which was painful on even slight pressure.

February 27.—She was anæsthetised, and left lateral laparotomy performed. The fundus and anterior surface of the uterus was covered by a large clot of organised blood, very adherent; the clot spread across to the right side between bladder and uterus, and was closely attached to the cæcum; adhesions with the parietal peritoneum had to be broken down. The tube was greatly distended; rupture had taken place at its inferior border, close to the uterus. In lifting the tube between the fingers it burst above, and the contained mole got squeezed out. The tube and ovary were removed. The organised blood clot was then peeled off the uterus and its other attachments. The surface of the uterus oozed blood rather freely. Sponges wrung out of boiling water were applied, with very little effect in arresting the bleeding; this was followed by applying tincture of matico, which had the desired effect. The pelvis was dry cleaned, and abdominal wound closed. A Tait's glass drainage tube was lodged in Douglas' pouch. Patient made an uninterrupted recovery. (The specimen, as also a photograph of it, showed the mole divided in two, the foetus lying at full length in its membrane.) The tube

was too much disorganised to admit of a preparation being made. Attention was drawn to the organisation and apparent encapsulation of the intra-peritoneal blood effused, and the difficulty experienced in peeling it away.

Remarks. — It is to the teachings and writings of Mr. Lawson Tait that we are principally indebted for the recognition and diagnosis of ectopic gestation, and for his method of treatment. In the *Bulletin*, November and December, 1896, Dr. Kelly, of the John Hopkins Hospital (whose name and general work are not unknown to the Fellows of the Gynæcological Society), records that heretofore his practice had always been, whenever extra-uterine pregnancy was recognised, whether ruptured or unruptured, to perform laparotomy at once. He now operates as follows :—“After an accurate diagnosis, outlining the sac and its relations by abdominal and rectal palpation, and after careful vaginal palpation to determine the proximity of the sac to the upper vaginal wall, a point is located behind the cervix in the vaginal fornix close to the sac, he plunges a pair of sharp scissors upwards in the direction of the pelvic axis. The scissors are then opened, and the opening widened by withdrawing them with the blades open. He then inserts two fingers to clean out the sac, and brings everything away, down to the shell of the sac and surrounding adhesions ; in one case he brought out a well-defined Fallopian tube cast.

“Irrigation follows, after which the sac is plugged with gauze, which is left in for several days, and then the wound is washed out daily until it closes.

“In one of his cases when cleaning out the sac, hæmorrhage was so active that he had to open the abdomen and extirpate the sac, but in his experience, he says that this is not imminent. Another danger is that the sac may rupture into the abdominal cavity, as the walls in some cases are quite thin.

“He regards the operation as especially satisfactory in

that the patient has simply been relieved of the abnormal products without losing any normal pelvic structures, and his plan is not only an important departure in the treatment of ectopic pregnancy, but also as an index of the line of progress in the general domain of gynæcology."

The dangers are many. Anyone, therefore, who undertakes vaginal puncture must be prepared to perform laparotomy.

In discussing this case, Dr. BANTOCK said that there were several points of interest in it, and especially in the concluding remarks. It was a pity that the specimen from the first operation had not been more carefully examined; the fimbriated end of the tube was open, and seemed to show that it was a case of hæmorrhage into the tube and escape of the blood into Douglas' pouch. As regards Kelly's operation, he was not prepared to give his adhesion to it. When they had an opportunity of examining a ruptured tube in all its bearings, such as was afforded by an abdominal section, it seemed to him a retrograde step to operate through the vagina; and, indeed, one of Kelly's cases had to be opened after all through the abdomen, showing that the vaginal method was not devoid of extra danger. The diagnosis of tubal pregnancy before rupture was not easy, and moreover the patient usually did not seek advice till rupture had occurred; therefore Kelly's rule that all cases should be operated on even before rupture was not one that he thought could be followed, except very rarely.

Dr. J. J. MACAN asked if he had rightly understood Dr. Purcell to say that there had been a previous ectopic pregnancy in this case, not ascertained at the time? In Schmidt's "*Jahrbucher*" there was a description of eighteen cases of tubal pregnancy occurring in the Copenhagen Hospital, and the author stated that in two of the eighteen there had been a previous tubal preg-

nancy. Another article in the same number gave an account of nineteen collected cases of double tubal pregnancy.

Mr. F. BOWREMAN JESSETT thought that the main interest in the case lay in the fact that the second operation followed so soon after the first. He thought Dr. Purcell was to be congratulated on the case, because there was a great deal of hæmorrhage besides the tubal pregnancy, and the operation must have been very difficult in consequence. He thought Kelly's principle was open to question on account of the difficulty in diagnosing tubal pregnancy before rupture; in fact, he might say that it was impossible. The puncture for diagnosis was, in his opinion, a justifiable procedure in some doubtful cases; he had employed it in two cases. One was thought to be a hæmatocele; he punctured and found, not blood, but pus. The patient had had one tube and ovary removed some time previously; and in the pus sac he found a double silk ligature. If this case had been opened by the abdomen she would probably have died. The second case was one in which he had done a supra-vaginal amputation of the cervix; she developed hæmatometra, and then a swelling in the pouch of Douglas. He punctured and found a hæmatocele. The patient recovered.

Dr. PURCELL could not say if there was tubal pregnancy at the time of the first operation; the patient had been regular for three years, and so there was no suspicion of pregnancy. The tube, however, contained a clot, which was not organised; he should call it recurrent tubal hæmorrhage. He was not prepared to endorse Kelly's procedure, whether before or after rupture was diagnosed.

The diagnosis of tubal pregnancy is undoubtedly difficult. In puncturing, as described for ruptured tubal pregnancy, the dangers are many, and it cannot be recommended; in

abscess cases, on the other hand, it is the best method of practice and one to be followed.

Dr. J. A. SHAW MACKENZIE observed that there was no improbability of extra-uterine gestation occurring a second time in the same tube. Dr. Benington had shown a specimen of that kind before the Society, and Whitridge Williams had recorded a case. If gestation occurred in the outer part of the tube, the fimbriated end became closed, and a second pregnancy could not occur, otherwise a second gestation was not impossible, though it was rare.

ADJOURNED DISCUSSION ON DR. BEATSON'S METHOD OF TREATMENT OF INOPERABLE CARCINOMA.

Dr. BANTOCK said that the addresses at the previous meeting, from Dr. Beatson and Mr. Marmaduke Sheild, were two of the most interesting he had heard. The subject also was one of the greatest interest, and any light that could be thrown upon it was welcome. He would not enter upon the speculative questions as to the origin of cancer cells and their relation to surrounding tissues; he had seen no evidence to justify the idea that anything definite had been arrived at on these points. But coming to the question of treatment, they were on firmer ground. And here, in the first place, he congratulated the Society on a speech showing the candour and honesty evidenced by Dr. Beatson's remarks. He felt he must take Mr. Sheild's view that it was a pity that in the first remarkable case both methods were used together. The case had a great interest for him, and he had since been on the look-out for evidence to support it; but all his experience was against the hope that there was anything in it. Soon after Dr. Beatson's first paper was published, a lady came to him and asked him to remove her appendages, because she had cancer of the uterus; but he thought it was hopeless, and so could only tell her that he

could not promise her a cure; after which he heard no more of the case. His reason for the line he took was that he had seen a case in which the ovaries had been removed for fibroids; afterwards she got cancer, and died: and he had seen other similar cases. Still, there was Dr. Beatson's case to be taken into account, so that he had to keep an open mind. He gathered that Dr. Beatson had not met with another case which supported the plan of treatment; but he thought he was right to pursue his enquiries if a patient were willing to try the plan, because at present they knew of no cure at all.

Mr. BOWREMAN JESSETT said he was sure that they had all listened with much interest and profit to the very able paper read at the last meeting by Dr. Beatson on the treatment of inoperable cases of carcinoma. His observations were not altogether new to them, as he had read a paper upon the same subject at the Edinburgh Medical and Chirurgical Society in May of last year. The subject however opened up a very wide field, and really to a great extent involved the nature and etiology of cancer, but if one once entered upon this point he was afraid it would not require only one evening to discuss the subject, but many evenings would have to be devoted to it. Dr. Beatson's remarks, however, led him to discuss shortly whether they were to look upon cancer as a local or constitutional disease. Was it hereditary, or did it come from purely local causes, such as constant irritation, blows, &c.? Now this question was somewhat threshed out by the British Medical Association some few years ago in the investigation as to the origin of cancer, instituted by that Association, the outcome of which was rather to lend countenance to the hereditary theory, and this brought them, he thought, somewhat nearer the truth, for there was no doubt that many persons suffering from cancer had a family history of the disease, and this often in a very marked manner; thus, a lady with cancer of breast consulted him some time since, who had had a

father, a brother, and two sisters die from cancer. In another case, a man came to him with epithelioma of the tongue. His father died of cancer of the penis; his uncle of cancer of the tongue, his brother had cancer of the tongue, and one sister had cancer of the breast; he (Mr. Jessett) could record other cases nearly as striking. On the other hand, by far the larger number of patients that consult one suffering from cancer have no family history. From these premises he personally thought that persons who had a family history were more prone to the disease than those who had no such history, that is, if a young person with parents who had had cancer had a kick in the shin, or a blow on the breast, or some constant local irritation, he or she would be much more likely to develop some form of malignant disease than if they had not cancerous history. On the other hand he did not consider that because a person had cancer that his progeny were of necessity bound to have it also; he considered it a purely local affection manifesting itself in a person possibly predisposed to the disease. Now he could not help thinking that Dr. Beatson had somewhat the same views as these when he thought of the idea of cancer being possibly under the control, so to speak, of the generative organs, more especially the breast, as it was conceivable that the periodic irritation and congestion of the mammary gland, in a person predisposed to malignant diseases, might be a cause of proliferation of the glandular epithelium and cancer, and he gathered that Dr. Beatson's theory was that by anticipating the menopause by removal of the ovaries, a rapidly-growing carcinoma might be converted into an atrophic scirrhous of old age, if not cured. In the cases treated by Dr. Beatson it was noticeable that they were all taking large doses of thyroid extract, and for experimental research it would seem a pity that this should have been the case, as it was difficult to differentiate the amount of credit which was due to the drug, or to the removal of the appendages. But he would like to point out that it might

be a very dangerous doctrine to promulgate that removal of the ovaries, &c., was a cure for cancer, unless it could be proved absolutely that this was the case, or that the removal of these organs had a direct influence *per se* upon the growth and extension of the disease. For it must not be lost sight of, that if castration could cause an influence for good in inoperable cases of cancer, it would be argued by some how much more then must the operation be beneficial when the disease had not extended so far. They were all agreed that cancer always presented itself in a much more virulent form in the young than in those who had passed the menopause. The disease was much more likely to recur after operation, and the prognosis was necessarily much worse. All surgeons were also agreed that with their present knowledge early and very free removal of the disease and structures around it was the treatment which held out the best chances of cure. But in operating, they were unable to say that the disease would not return or how long the patient would be free from recurrence. He had operated on the very worst and most unfavourable cases in which they might reasonably expect an early recurrence, and the patient had kept well for years ; one very remarkable case occurred to him of a lady, about 60, with a scirrhus of the left breast. The whole gland was implicated and the skin around it, the gland was firmly fixed to the pectoral muscle, and everything looked as unfavourable as possible, and it was only on account of the severe pain that he operated, holding out no hope of a permanent cure. Yet that patient now, twelve years after the operation, was quite free from recurrence ; on the other hand a young, healthy-looking actress, aged 32, consulted him for a small lump in her breast which he diagnosed as scirrhus. He amputated her breast very freely, and cleared the axilla. She made a rapid recovery. In three months there was a recurrence in the scar ; he again removed this freely, successfully, but recurrence again took place. Then she placed herself

under another treatment, with no benefit, and she returned to him, and died within the year of the first operation. Dr. Beatson's paper raised the question—would the removal of the tubes and ovaries have done this poor girl good? Would the anticipation of the menopause cause rapidly-growing scirrhus in the young and middle-aged to become atrophic? On the whole, it appeared to him that while castration might have the effect of averting the development of carcinomatous growths in certain glands, which might have some internal connection with the testes and ovaries, yet, he considered, with the very guarded and limited evidence before them, which Dr. Beatson had so fairly put before the Society, that it would be a very dangerous theory to promulgate, as, in the hands of charlatans, it might lead to disastrous consequences.

Dr. HERBERT SNOW, referring to Coley's fluid, said that the treatment by erysipelas inoculation came from the States about twenty years ago, and then died out; after which Coley re-introduced it. He judiciously limited it to "sarcoma," which was a vague term, covering a multitude of sins and many errors. It was an old tradition that erysipelas could cure cancer. At one time they had a good deal of erysipelas in the Cancer Hospital, but no case of cancer or of sarcoma ever showed the least benefit; and probably the cases of improvement recorded were not cancer, but syphiloma, &c. Therefore, until they had very valid evidence that erysipelas had done good, it was futile to dabble in its toxins. Cancer of the breast always began in a single focus, as Dr. Beatson had said. Dr. Beatson had gone on to speak of its diffusion, but he omitted to mention its extension by regurgitation from the lymph channels into the marrow of the bones, where it might remain *perdu* for five to six years, sometimes more. He spoke of the mystery of the origin of cancer of the breast, but he (Dr. Snow) did not think that there was any special mystery about it, for there was always a definite sequence

of cause and effect. The breast and uterus were both rich in cells which underwent a monthly change; the uterine changes were plain to view, but those in the breast were no less assured, and the relation of both sets of changes to the nervous system was shown by the effects of emotional disturbance. They always found that before cancer of the breast or uterus declared itself the patient had suffered from depression and low nervous vitality, often with wakefulness at night. So constant had he found this association that he now inquired for it in every case, even of antecedent injury. Thus was set up an aberration in the normal processes of involution or devolution, which displayed itself in sundry forms of organic disease, one of these being cancer. On the practical question Dr. Beatson admitted failure of any good result in most of his cases. Unless the breasts were the only site of cancer, it was difficult to discern any rational ground for removing the ovaries. Dr. Snow had just been consulted by an old man with recurrent tongue-epithelioma in the deep cervical glands, whose doctor had gravely proposed to castrate him. That seemed a *reductio ad absurdum* of the proposition in question. Dr. Snow thought, however, that the Society was very greatly indebted to Dr. Beatson for the candid manner in which he had placed his results before them, without concealment or suppression, thus setting an excellent example in such matters.

Mr. STANLEY BOYD said that the speakers so far had taken the theoretical point of view, and he wished to say a few words from a practical standpoint. He saw Dr. Beatson's paper last year; influenced by that, he took away the ovaries from a patient from whom he had removed a cancerous breast. She was 44. A tumour had been removed from the left breast in 1892, and the whole breast in 1893. There was recurrence in the scar in 1894. In May, 1896, she came to him to see if anything could be done; a few days before she had had a swelling above the scar and a

cough. The general health and the breathing were good. Examination of the chest and abdomen showed no visceral disease. Locally, she had a mass in the pectoralis major, enlarged axillary glands, subcutaneous infiltration about the scar, and just before the operation a nodule was found adherent to the chest-wall of the left side on a level with the cartilages. He began by removing this; there was a track of infiltration from it, which he followed, removing the cartilages of the fourth and fifth ribs; from the anterior mediastinum he removed one large gland, but, finding others beyond, he stopped. After a few months the patient heard of Beatson's paper, and asked him about it. He informed her that while Beatson's first case seemed to be a complete cure, the second, an alcoholic, seemed not to have improved. He heard nothing more on the subject for some time. Then at a meeting in November, 1896, Mr. Gould reported a case he had had of undoubted cancer at the Middlesex Hospital; without any special treatment she recovered completely. He inquired about her menstrual history, and found that her menopause had occurred at 43, at about the time she was at her worst; conceivably this was connected with arrest of growth of the cancer. At the same meeting he heard of a case in which the ovaries had been removed from a patient who had a large, fixed growth in the axilla after removal of the breast. In five weeks the growth had shrunk greatly and become movable. He told his patient's husband of these cases, with the result that oöphorectomy was decided upon. There was then great infiltration at the site of the last operation, and glands along the pectoralis minor. He could find no evidence of visceral disease; menstruation was regular. On December 22 he performed oöphorectomy; both ovaries were large. Pain ceased at once. On December 27 there was marked diminution of the fulness; in two weeks the infiltration over the heart was much less. On February 22 it had disappeared, and the heart could be

felt beating plainly at that spot, and five out of the six obvious nodules had also gone.

Case 2.—This was more recent. The patient, aged 37, was sent to him by Dr. Horace Saunders, in March, 1896. She had a mammary tumour, first observed two months previously, and attributed to a blow. He removed the whole growth and part of the pectoral muscle. There were secondary nodules all over the pectoral muscle and in the axilla. In February, 1897, he saw her again, when she had many nodules in the skin and subcutaneous tissue, and involving the costal cartilages; other nodules were in the axillæ, in the left breast and above the right clavicle. She was very thin and pale. On February 21 he performed oöphorectomy. In a week the vascularity of the nodules was markedly less, in two weeks the nodules themselves were smaller. Since then the patient had gained flesh and got a better colour, though, of course, this might be due to increased hope, and to the rest in bed and feeding up. May 1.—Improvement has continued; many nodules have disappeared, all have greatly diminished in size.

Case 3.—The patient was operated upon by Mrs. Boyd. She was aged 36, and had suffered from pain and hæmorrhage for two years, due to malignant disease of the uterus. It was an extreme case, with a large vesico-vaginal fistula, both vagina and peritoneum being involved. Oöphorectomy was done on January 15. A week later the vagina laxer and the growth was softer. At the beginning of March she was very ill and weak, and it was thought that she was dying. On April 7 the house-surgeon saw her and found her much better. Mrs. Boyd had seen her that day; she was much better, and was up and about, doing her work; but although the general condition had much improved the local condition was worse.

As far as the evidence went, six cases of cancer of the uterus had now been reported treated by this method, and in not one had any local advantage been derived;

on the other hand, it seemed clear that in other parts oöphorectomy had led to complete removal of cancer masses. From this it would appear either that cancer was not an entity, but that there were several kinds, or that oöphorectomy had more effect on some tissues than on others. Thus, the effect seemed to be less on muscle than on skin, connective tissue, and lymphatics. As regards the viscera—Dr. Beatson had stated that he had never found improvement when visceral growths existed; yet there were the two cases of Gould and Bowlby on the other side, showing that visceral growths might spontaneously disappear, so that they should not too readily decide that visceral disease contra-indicated the treatment. What they had to do was to see what led to recession of the cancer growth and try to imitate the process. Oöphorectomy might be one of these influences. As regards the influence of age, all his patients were women still menstruating, so that he could say nothing as to operating after the menopause; but he should deprecate limiting the operation to the case of lactating women.

Dr. BEATSON, in reply, thanked the Society for the kind and attentive hearing which they had given him. Briefly, his remarks at the last meeting were on two points: (1) The nature and origin of cancer; (2) the question of treatment. On the first point his remarks were necessarily speculative; on the second they were practical, and based on actual cases. In the first case he reported there was no doubt that the disease was cancer. He had said that he had not seen such good results in the other cases; but in all these, local changes were seen, which, if the cases had been more favourable, might have led to improvement. He was not prepared to say whether the removal of the ovaries influenced the cell proliferation or their nutrition; he thought Mr. Boyd's explanation was correct, that the tissues were affected thereby, in much the same way as was seen in cases of osteomalacia. He was not wedded to the ovarian or testi-

cular explanation of cancer ; but he had felt that they had to do with an activity of the germinal cells, and in deciduoma malignum he thought that he had found a support for his suggestion. He was now confining his attention to two points : (1) The cancer bodies in relation to the maturation of ova ; (2) the question whether it was possible to influence cancer growth by the inoculation of germinal epithelium. Inoperable cases of cancer were a reproach to medicine, and he felt that if he had been able to attract attention to them, good would have been done, for it would be a great matter to establish whether they had to deal with a parasitic disease, or with a disease of the tissues. In conclusion, he thought it would be found that there was a good deal of variation in the individual susceptibility to the beneficial effects of his treatment.

ORIGINAL COMMUNICATIONS.

THE DEVELOPMENT AND THE PRESENT STATUS OF HYSTERECTOMY FOR FIBRO-MYOMATA AND FOR INFLAMMATION OF THE UTERINE APPENDAGES IN AMERICA.

BY CHARLES P. NOBLE, M.D.

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HYSTERECTOMY, both for fibro-miomata of the uterus and for destructive inflammatory lesions of the uterine appendages, is American in origin. The first operation deliberately undertaken for the removal of a fibroid tumour of the uterus by abdominal hysterectomy, a correct diagnosis having previously been made, was performed by G. Kimball,¹ M.D., of Lowell, Mass., September 1, 1853. Kimball did a supra-vaginal amputation of the cervix and dropped the pedicle. As was the custom at that time in performing ovariotomy, the ligatures were left long and brought out at the lower angle of the wound. It is a matter of curious interest, as I hope to show in this paper, that Kimball adopted the operation which, as perfected by modern methods, is giving the best results in hysterectomy at the present time.

Abdominal hysterectomy for destructive inflammatory lesions of the uterine appendages is an operation of the present. It was first done in 1892, by Drs. Polk, Edebohls Krug and Baldy.*

* For a full account of the operation consult the body of the paper.

The operation was first prominently advocated by Dr. Baldy of Philadelphia, and by Dr. Polk of New York. The operation has been sufficiently tried to prove its superiority to the removal of the uterine appendages without the removal of the uterus, in cases complicated by extensive adhesions or inflammatory exudate. In such cases, by the older method, when the appendages have been removed an extensive raw surface is left behind the uterus, on the posterior surface of the broad ligaments, and in many cases throughout the true pelvis. Much of this wounded area derives its blood supply from the uterine arteries, which are not influenced by the operation of oöphoro-salpingectomy. This anatomical fact is the explanation of the difficulty in controlling oozing in such cases. The substitution of hysterectomy controls the blood supply and prevents oozing. When marked inflammation of the uterus is present, hysterectomy saves the patient the symptoms due to this condition, and also a long course of after-treatment for their cure.

It is my purpose to give only an outline of the development of hysterectomy in America, as the literature of the subject is too extensive for a full review. The advocacy of surgical operations for the cure of fibroid tumours of the uterus, by Dr. Washington L. Atlee, marks the beginning of the scientific treatment of these growths. Atlee operated in general through the vagina, but in a number of cases, beginning in 1844, removed pedunculated fibroids by coeliotomy,² and was the first to perform an abdominal myomectomy for a sessile fibroid tumour of the uterus.³ This operation was performed March 3, 1853. Atlee continued to operate upon fibroid tumours throughout his professional career, and from time to time to contribute to the literature of the subject. He operated in general for the removal of the tumour alone. This was done either *per vaginam* or by abdominal section. He performed hysterectomy, but not in a large number of cases. His final contribution to the subject was a paper entitled "The

Treatment of Fibroid Tumours of the Uterus,"⁴ read before the International Medical Congress in 1876. This is a general paper advocating very much the line of treatment recommended in his "Prize Essay" of 1853, and, in addition, hysterectomy in some cases.

The early work of Kimball and Burnham in abdominal hysterectomy is well known. Dr. Walter Burnham, of Lowell, Mass., on June 26, 1853, operated upon a patient with a diagnosis of ovarian cyst, but found a fibroid. The patient vomited and extruded the tumour, which could not be replaced; hence, from necessity, Burnham removed it. Two pedunculated fibroids were peeled out to reduce the size of the tumour, then he "passed a strong double ligature through the neck of the uterus and tied on each side. Then, to make doubly sure against hæmorrhage, a ligature was placed around the whole neck." The broad ligaments and the cervix were next divided. No bleeding followed. The ovaries were diseased, and were removed. The cervix was dropped, and the ligatures were brought out at the lower angle of the wound. They came away during the fifth week. The patient recovered, being the first to recover after hysterectomy. Burnham continued to operate, performing altogether fifteen hysterectomies, with three recoveries. His second operation was performed in 1854, and the third in 1857. Burnham made no contributions to the literature of hysterectomy, his cases being reported by Drs. Irish⁵ and Perkins,⁶ in 1878 and 1888.

Dr. Kimball was the first to deliberately perform hysterectomy for a fibroid tumour, a correct diagnosis having previously been made. He operated, September 1, 1853, upon a patient greatly reduced by long-continued uterine hæmorrhages. He performed a supra-vaginal amputation of the uterus. The uterus was transfixed, and each half ligatured. The cervix was dropped, and the ligatures brought out at the lower angle of the wound. Eight months later the woman was well, except that the ligatures were still attached. This case was reported in

1855, and in the report¹ two other cases are mentioned in which hysterectomy was performed with a fatal result. Kimball continued to operate throughout his professional career, and was the first American to make use of Koeberlé's extra-peritoneal method of treating the stump. This operation was performed September 18, 1869.⁷ According to Bigelow,⁸ in 1883, Kimball had performed eleven hysterectomies, with six recoveries and five deaths.

The mortality of hysterectomy was so great in the early years that but few were performed. After the introduction of the extra-peritoneal method of treating the stump by Koeberlé, this method was tried by various operators, including Kimball and Thomas.⁹ Instead of using the *serre-nœud*, Dr. Thomas devised a special clamp to control bleeding from the stump.

Dr. Marcy, probably influenced by the work of Schroeder, improved upon the early work of Kimball and Burnham. He reported a method of securing the pedicle by sewing it across with the cobbler's stitch in 1881.¹⁰ This method is still used by himself, and was used by Dr. Cushing¹¹ for some years.

In 1884 Dr. Emmet first utilised the peritoneum from the anterior face of the uterus and the peritoneum of the bladder, to cover over the cervical stump in a hysterectomy done for a dermoid cyst of the ovary and a fibro-cyst of the uterus. He was the first to treat the stump by the retro-peritoneal method. The operation is fully described and its principles discussed by him, and the importance of making the stump retro-peritoneal is clearly pointed out.¹²

Dr. Joseph Eastman, February 3, 1887, further improved the *technique* of supra-vaginal amputation of the uterus. Like Marcy he sutured the stump with the cobbler's stitch, and like Emmet he covered the stump with peritoneum. Eastman used an anterior and a posterior flap of peritoneum, which were sutured above the stump, thus making the stump retro-peritoneal. Before suturing the cervix he burned out the cervical canal with the thermo-cautery, and

introduced a rubber drainage tube through the cervical canal for vaginal drainage. He was the first to use both anterior and posterior flaps of peritoneum.¹³

Until 1888, all progress had been along the lines of perfecting the *technique* of supra-vaginal amputation. Pan-hysterectomy for uterine fibroids was first performed in America by Dr. Mary A. Dixon Jones, February 16, 1888. The operation was deliberately undertaken, as shown by the fact that some months previously Dr. Jones had in a public discussion spoken of the advantages which such an operation would have. The greater portion of the mass was removed from above, then the vaginal connections were severed from below, and clamps were applied.¹⁴ At the time this operation was published it was supposed by Dr. Jones to have been the first pan-hysterectomy for fibroid tumour, as the admirable work of Bardenheuer was not known in America.

All work in hysterectomy was revolutionised by Dr. L. A. Stimson, who proposed and carried out the ligation of both the ovarian and the uterine arteries in their course as a *preliminary* to hysterectomy. He first ligated these arteries in performing a pan-hysterectomy for cancer. On January 4, 1889, he did the same as a preliminary step in pan-hysterectomy for a fibroid tumour.¹⁵ In a subsequent paper Dr. Stimson advocated the substitution of the ligature of the ovarian and the uterine vessels in their course for the ligature *en masse*. He reported five hysterectomies in which this method was used successfully.¹⁶ Dr. Stimson has made no further contributions to hysterectomy, but unquestionably his is the greatest individual contribution to modern *technique*.

Before the appearance of Stimson's paper the control of hæmorrhage in hysterectomy was very unsystematic. The use of the temporary elastic ligature was considered an essential step in the operation. The broad ligaments were tied in a series of ligatures patterned on the method of ligation in ovariectomy, the effort being made to ligate every

particle of tissue in the broad ligaments, and special stress was not laid upon the systematic ligation of the trunks of the four arteries supplying the uterus and its appendages in their course through the broad ligaments. Great importance had always been placed upon the vascularity of uterine tissue, and the principal danger of hysterectomy was supposed to be that of primary or of secondary hæmorrhage from the stump. When Stimson showed that practically all hæmorrhage can be controlled by four small ligatures in performing pan-hysterectomy, it was a very slight step to apply the same principle to supra-vaginal amputation, which was suggested by himself, and was done subsequently by Milton of Cairo and by Baer. Out of Stimson's work has grown our present systematic methods of controlling hæmorrhage in hysterectomy. From the date of his paper we can trace the abandonment of the temporary elastic ligature about the tumour and uterus—a direct result of the increased confidence which operators have in their ability to control hæmorrhage.

Dr. H. A. Kelly has been an aggressive worker in the field of hysterectomy since the transition period. His first hysterectomies were done by the extra-peritoneal method of treating the stump, but this method was abandoned because of its disadvantages. On the other hand, Kelly was not willing to run the chances of Schroeder's intra-peritoneal method of treating the stump; accordingly he modified this by attaching the stump, made according to the Schroeder method in the abdominal wound, so that any hæmorrhage or discharge from the stump would make its appearance upon the abdominal wall. In this way hæmorrhage could easily be recognised and controlled, and infection of the peritoneal cavity from the stump avoided. His first operation by this method was done October 10, 1888.¹⁷ The operation is carefully described and illustrated. After the stump was made according to the Schroeder *technique*, the last row of sutures in the stump was left long, by which to suspend it in the abdominal wound. The parietal peri-

toneum was then stitched around the stump, and the long sutures caught in a pair of forceps. In this way, within twenty-four hours, the surface of the stump became extra-peritoneal, and was under control by means of the long sutures held by forceps. Kelly operated by this method from 1888 until 1892. His experience showed that none of the stumps so treated bled, and none of them sloughed, so that in 1892 he adopted practically the Schroeder operation.¹⁸ Hysterectomy, as done by Kelly, was a systematic operation, both as to the ligation of the vessels and the various steps of the operation. During this time, however, he continued to use the temporary elastic ligature. Shortly after 1892 the retro-peritoneal method was adopted; and finally his present method of operating was evolved, which will be described later.

Dr. W. M. Polk, influenced by the disadvantages of the extra-peritoneal method of treating the stump, and greatly impressed with the work of Stimson, devised a method of shutting off the stump from the peritoneal cavity without dragging it up into the abdominal wound.¹⁹ This operation, while ingenious, like Kelly's first method, is to be regarded as belonging to the transition period, and was one of the methods adopted to avoid the disadvantages of having the stump in the abdominal wound, before a really successful method had been devised for dropping it into the pelvis and covering it with peritoneum. At the same time, following Stimson, Polk began to do total extirpation. Polk's method consisted in dissecting off a cuff of peritoneum all around the tumour or uterus, with systematic ligation of the vessels. This cuff of peritoneum was attached to the parietal peritoneum after the tumour was taken away, so that the stump, while in the pelvis, was shut off from the peritoneal cavity. As a matter of curious interest the same operation, or one very similar, was reported by Dr. N. Senn,²⁰ as a new and valuable addition to hysterectomy in 1895.

Dr. Henry T. Byford, of Chicago, having become dis-

satisfied with the usual *technique* in dealing with the stump in hysterectomy, devised a method of turning it into the vagina.²¹ This ingenious method of operating belongs to the same class as that of Kelly and of Polk, and is of interest historically rather than practically.

Dr. Joseph Eastman's first pan-hysterectomy for a fibroid tumour was performed September 21, 1889, and first reported to the Marion County, Indiana, Medical Society in 1890.²² Several contributions to the literature of hysterectomy have followed.²³ Eastman attaches much importance to peeling out the tumour by means of a dull instrument, and also to keeping close to the uterus so as not to wound the uterine artery. Frequently he does not ligate this vessel. As a further contribution to hysterectomy, Eastman invented a staff with which to lift up the cervix and tumour from below, and to assist the operator in cutting through the vagina from above. Before the introduction of the Trendelenburg posture, this method greatly facilitated the operation. This invention, although original with Eastman, was anticipated by a similar invention by Bardenheuer. Eastman undoubtedly has been one of the pioneers in total hysterectomy, and his experience with the operation has been large.

Dr. J. R. Goffe in 1890 reported four successful supra-vaginal hysteromyomectomies, the first of which was performed May 29, 1888. In these cases the stump was rendered retro-peritoneal, in the first by sewing the bladder peritoneum over the stump, and in the others by using anterior and posterior flaps of peritoneum, which were sutured above the stump. The operation is described as a new method, the origination of which is credited by Dr. Goffe to Dr. A. P. Dudley and himself.²⁴ Goffe has been a consistent advocate of supra-vaginal amputation, and has subsequently reported fifteen operations, with one death.²⁵ In considering this method, the previous use of the retro-peritoneal treatment of the stump by Emmet in 1884, and by Eastman in 1887, must not be forgotten. Goffe's paper

undoubtedly was of service in the development of the *technique* of hysterectomy, and must be regarded as one of the valuable contributions during the period of development.

Until 1892, and during the time when the original work already detailed was undergoing its development, supra-vaginal amputation with the extra-peritoneal treatment of the stump was the method of performing hysterectomy most generally employed. The method probably was first used in America by Kimball in 1869.⁷ The popularity of this method was due indirectly to its successful employment by Koeberlé, Péan, Hegar, Keith, Thornton and Bantock, and directly to its advocacy by Joseph Price. Since 1892 it has been used less and less, until at the present time it may be looked upon as obsolescent, if not obsolete. Price and some of his former students employ the method with the Koeberlé *serre-nœud*, but practically all other operators have abandoned it.

The year 1892 may be considered as a critical one in the history of hysterectomy in America. The good work which had been done began to bear fruit. The general improvement in *technique* in abdominal surgery, and the introduction of the Trendelenburg position into general use, also were important factors. At the meeting of the American Gynæcological Society in 1892, Dr. Polk²⁶ reported seventeen abdominal pan-hysterectomies for fibroids, with two deaths. His results were not better than had been obtained by other methods, but were sufficient when taken in connection with the work of Stimson, Krug,²⁷ Eastman, Boldt,²⁸ and Edebohls,²⁹ to show the value of pan-hysterectomy.

Baer reported nine cases of hysteromyomectomy without a death, operated upon by supra-vaginal amputation, at the same meeting of the Society.³⁰ The point of chief value in the *technique* employed by Baer is that he securely ligated both the ovarian and the uterine arteries in their course through the broad ligaments. In this he applied the principle worked out by Stimson, except that he substituted

the mass ligature for the isolated ligature of the vessels. Baer's paper has had a great influence in popularising hysterectomy. It was a practical answer to the great fear of primary and secondary hæmorrhage from the cervical stump. He placed no ligatures or sutures in the cervical tissue, and yet no hæmorrhage followed. This was a practical and complete demonstration that ligature of the trunks of the uterine arteries can control hæmorrhage as well in supra-vaginal amputation as in total hysterectomy. He neither disinfected nor drained the cervical canal, but the good results which he obtained, especially when considered in connection with the more recent studies of the contents of the cervical canal from a bacteriological standpoint, are a very satisfactory answer to the fear of infection from the cervical canal entertained by Schroeder and his disciples.

The chief value of Baer's work consists, not in adding new steps to the *technique* of hysterectomy, but in omitting some of them, and also in a thorough appreciation of the fact that a mass ligature placed low down in each broad ligament, securing the uterine arteries, can thoroughly control the blood supply to the cervix. This, of course, is merely applying to supra-vaginal amputation the work of Stimson in total hysterectomy. In addition, Baer was the first to grasp the fact that the way to prevent sloughing of the cervical stump is to leave it alone. He neither burned it with the cautery, devitalised it with strong anti-septics, nor strangulated it with tightly placed sutures. He utilised the work of Emmet, Eastman, Dudley and Goffe, in making the stump retro-peritoneal, and the work of Stimson in securing hæmostasis by ligatures *placed in the connective tissue* of the broad ligaments. The chief fear of the older surgeons in operating upon the uterus was secondary hæmorrhage. They believed that uterine tissue has the peculiar property of not being amenable to ligation; that some hours after a ligature is well placed in uterine tissue it will become loose and permit secondary hæmorrhage to take place. Through Baer's work this view has become ancient history.

Dr. Wm. R. Pryor, in 1894, contributed a new method of total hysterectomy for intra-ligamentous fibroid tumours, which he had used successfully in three cases at that time.³¹ In this paper Pryor calls attention to the three special elements encountered in dealing with intra-ligamentous fibromata, namely :—(1) Danger of wounding the ureter ; (2) hæmorrhage on dividing the sinuses of the capsule ; (3) duration of the operation.

He proposes a systematic operation to overcome these difficulties. The operation consists of the following steps :—

(1) The upper part of the broad ligament on the free side is ligated in the usual way, a ligature being placed also to control reflux hæmorrhage. The broad ligament is then divided between these ligatures down to a point approaching the uterine artery.

(2) The posterior *cul-de-sac* is now opened to permit the introduction of the finger into the vagina, enabling the operator to guide the Deschamps' needle in placing the next ligature.

(3) The bladder is dissected away.

(4) The vagina is opened in front of the cervix.

(5) The uterine artery is secured between two ligatures in the usual way.

(6) The ovarian vessels over the ligamentous nodule are now secured.

(7) The vagina is entirely dissected from the cervix, before, behind, and on its free side.

(8) The location of the ureter is carefully studied.

(9) The uterus is tilted far over to the involved side by an assistant. The Deschamps' needle is passed through the vaginal mucous membrane so as to sweep around all the tissues between the vagina and the tumour. Great force may be necessary, as the needle must hug the cervix closely, must pass right up to the tumour, and must finally emerge in the vagina, encircling the uterine artery in one ligature.

(10) The cervix is freed from its connections to the vagina and to the base of the broad ligament, the scissors being kept close to the cervical tissue.

(11) The tumour is now enucleated, and the remainder of the broad ligament is divided.

(12) Iodoform gauze is packed into the vagina, and as high in the pelvis as the cavity in the broad ligament.

(13) All raw surfaces can be rendered extra-peritoneal if desired.

For those who wish to do total extirpation, this operation should prove of the greatest service when dealing with intra-ligamentous fibroid tumours.

The last contribution of value to hysterectomy is that of Dr. Kelly, which he calls "hysterectomy by continuous incision from left to right or from right to left."³² The method was reported to the Southern Surgical and Gynæcological Association, November 12, 1895, with the statement that it had been used over two years and in more than two hundred cases. The method consists in a supra-vaginal amputation of the uterus together with ablation of its appendages, and is to be used for those cases of fibroid tumours requiring hysterectomy, and for cases of destructive lesions of the uterine appendages necessitating the removal of both ovaries and tubes. The operation consists in the following steps :—

(1) Opening the abdomen.

(2) Ligation of the ovarian vessels near the pelvic brim, either on the right or on the left side, clamping them towards the uterus, and cutting between.

(3) Ligating the round ligament of the same side near the uterus, cutting it free, and connecting the two incisions, in order to open up the top of the broad ligament.

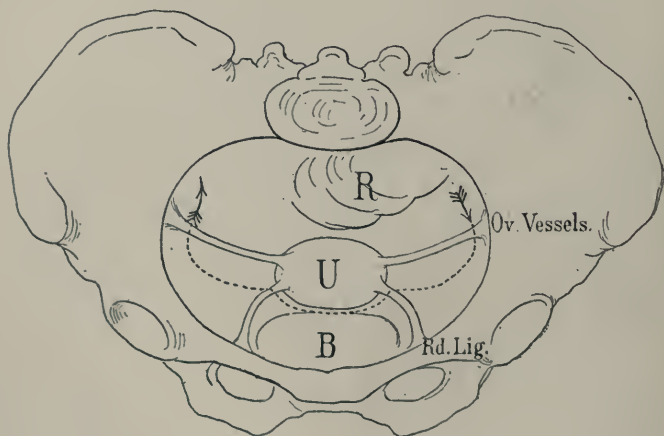
(4) Incision through the vesico-uterine peritoneum from the severed round ligament across to its fellow, freeing the bladder, which is now pushed down with a sponge, so as to expose the supra-vaginal cervix.

(5) Pulling the body of the uterus to the opposite side to expose the uterine artery low down on the side opened up. The vaginal portion of the cervix is located with thumb and forefinger, and the uterine artery, seen or felt, is tied

just where it leaves the uterus. It is not always necessary to tie the veins.

(6) The cervix is now cut completely across just above the vaginal vault, severing the body of the uterus from the cervical stump, which is left below to close the vault.

(7) As the last fibres of the cervix are severed or pulled apart, while the body of the uterus is being drawn up and rolled out in the opposite direction, the other uterine artery comes into view and is caught with artery forceps about an inch above the cervical stump.



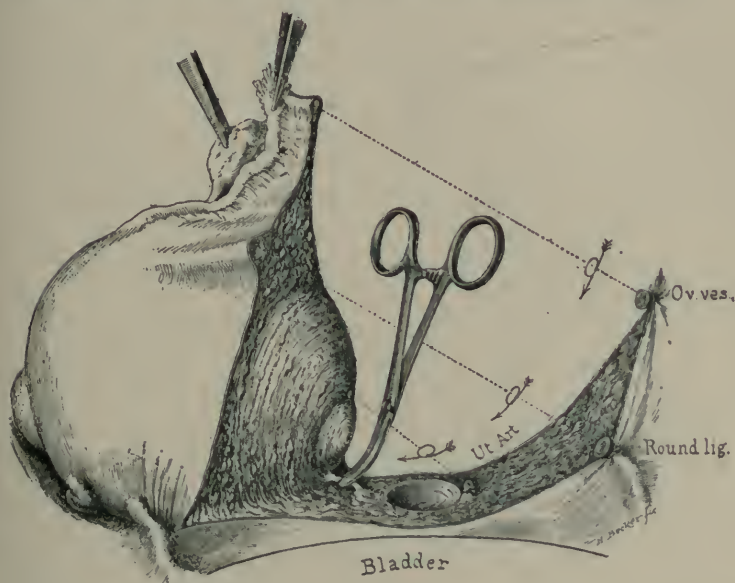
(8) Rolling the uterine body still farther out, the round ligament is clamped at the pelvic brim, and the removal of the whole mass, consisting of uterus, tubes and ovaries, is completed.

(9) Ligatures are now applied in place of the forceps holding the uterine artery, round ligament, and ovarian vessels; if the surgeon prefers, these may be tied as they are exposed without using the forceps.

(10) After the enucleation the operation is now finished in the usual way: (a) by closing the cervical tissue over the cervical canal, and then (b) by drawing the peritoneum of

the anterior part of the pelvis (vesical peritoneum and anterior layers of broad ligaments) over the entire wound area, and attaching it to the posterior peritoneum by a continuous catgut suture.

The continuous transverse incision should always be started on the side where the ovarian vessels and the ovary and tube are accessible. If the case is one of a fibroid uterus, and the tumours are developed under the pelvic peritoneum or in the broad ligament of one side, this side should be opened up last, from below upwards, when the tumours can be rolled up and out with surprising facility.



Kelly claims for this method that it greatly facilitates the operation, increasing the rapidity with which it can be done, and saving from 60 to 80 per cent. of the time consumed in the enucleation.*

* During the past year Kelly has left in one or both ovaries when performing hysterectomy, if these organs were healthy. He states in a

The work of Pryor and Kelly has made the removal of intra-ligamentous fibroids almost as simple as those having the usual development, so that in skilful hands the removal of these tumours, until recently considered almost inoperable, is almost as systematic an operation as an ordinary ovariectomy.

In tracing the history of hysterectomy in America there has been no intention to overlook the important work in this field which has been done in other countries. In no other field perhaps can we find a better illustration of the fact that human effort is not restricted by national boundaries, than in that of medicine ; a brief reference will be necessary, therefore, to the work of some of those who have been most prominent in developing hysterectomy in Europe.

Charles Clay, of Manchester, was the first European to perform hysterectomy for fibroid tumour. In 1843 and in 1844 he operated with a diagnosis of ovarian tumour. The first case died in an hour and a half after the operation from hæmorrhage, the second died on the fifteenth day from peritonitis, attributed to an accident. The patient was dropped on the floor by the nurse. His first deliberate hysterectomy was in January, 1863. This was followed by recovery.³³

Koeberlé³⁴ was the second to perform hysterectomy in Europe, in 1863, and to him also must be credited the discovery of the extra-peritoneal method of treating the pedicle. (Most authors omit reference to Clay, and state that Koeberlé performed the first hysterectomy in Europe.) This method of operating was perfected by Péan,³⁵ Hegar³⁶ and Kaltenbach, Keith,³⁷ Thornton,³⁸ and Bantock.³⁹ The

private communication to me, that enough time has not elapsed for absolute conclusions, but that undoubtedly the vaso-motor disturbances, which greatly annoy many patients when passing through the artificial menopause, are either prevented or greatly lessened by his present practice.

value of the work of these men cannot be over-estimated, as they were the first to obtain really satisfactory results, reducing the mortality of hysterectomy approximately to that of ovariectomy. It was of value also from the fact that it was done at a time when Atlee, Kimball and Burnham had practically ceased to operate, and when but little work in this field was being done in America.

Too much praise cannot be accorded Schroeder.⁴⁰ No one surgeon has ever accomplished more for hysterectomy than he, although but some five years were devoted to active work in this field. A careful reading of Schroeder's contributions to hysterectomy in 1883 will show that he had perfected a systematic operation, and there can be no doubt that had he not met with a premature death the credit for perfecting the *technique* of hysterectomy would have been his rather than that of his successors. Even from the present standpoint the method which he worked out was far from bad. His relatively poor results are to be attributed to four causes :

(1) Asepsis in abdominal surgery had not been perfected in 1883.

(2) Schroeder looked upon an operation for a fibroid tumour as a myomectomy rather than as a hysterectomy. This, together with the supposed necessity for using the temporary elastic ligature, caused him to amputate the uterus at a high level—through the corpus uteri rather than through the cervix. This necessitated the relatively poor ligation of the uterine artery.

(3) Schroeder clearly recognised the necessity for ligating the four main vessels which supply the uterus, but his use of the temporary elastic ligature and the cutting away of the tumour at a high level, of necessity caused an unsatisfactory ligation of the uterine artery. Instead of ligating the trunk of the artery in its course through the broad ligament, it was ligated high up, after numerous branches had been given off. This error necessitated the placing of numerous ligatures in the uterine stump to control hæmorrhage.

(4) Finally, although Schroeder covered the stump with peritoneum, he did not appreciate the necessity or value of making the field of operation retro-peritoneal, that is, of covering the wound in the broad ligaments, together with the stump proper, with peritoneum, and suturing this in such a way that any wound secretions would be retro-peritoneal.

Total hysterectomy is German in origin.* Bardenheuer⁴¹ having practised Freund's operation for cancer, applied the same principles to the removal of fibroid tumours, and published his work in 1881. Bardenheuer's work deserves far more credit and recognition than it has received, and will fully repay study at the present time. Not only was he the first to do total hysterectomy for a fibroid tumour, but he operated with his patient in the position which has since been perfected by Trendelenburg, and is now known as the Trendelenburg posture. Another indication of how far Bardenheuer was in advance of his contemporaries is his attitude toward hysterectomy *versus* double ovariectomy. He states that hysterectomy has given better results in his hands than double ovariectomy, and that it appears likely to him that hysterectomy will be substituted for double ovariectomy because it is a less dangerous procedure.

Drs. Martin,⁴² Fritsch,⁴³ and Chrobak⁴⁴ were among the first to do total hysterectomy, and Martin has done much to popularise the operation by his aggressive attitude towards it.

Chrobak is credited by many German writers with having originated a new *technique* for supra-vaginal amputation.⁴⁵ At the time Chrobak wrote this article upon supra-vaginal amputation, he had performed but one operation, and had assisted Rosthorn in one operation. He disclaims in his paper any originality, and recommends the operation only in those cases in which it is not possible to disinfect the

* Apparently Charles Clay's second hysterectomy, performed in 1844, was a complete extirpation of the uterus. The operation was undertaken with a diagnosis of ovarian tumour.

vagina and cervix ; in all other cases he advises total extirpation of the uterus. He was still under the influence of Schroeder in so far that he devitalised the stump of the cervix by burning it with the cautery, and also that he retained the use of the temporary elastic ligature in operating. He describes, however, a systematic operation, and fully appreciates the value of the retro-peritoneal treatment of the stump.

In Great Britain, in addition to the older operators who did such good work in the extra-peritoneal treatment of the stump, special mention must be made of Drs. Milton⁴⁶ of Cairo, and Heywood Smith.⁴⁷ It is evident from reading Milton's paper that he did a very satisfactory operation, but apparently he failed to grasp the value of his own work, as indicated by the title of his paper, "Supra-vaginal (abdominal) Hysterectomy with the Scissors." Milton made the stump retro-peritoneal, but failed to appreciate the importance of so doing, and speaks of it as being intra-peritoneal. Also he controlled hæmorrhage by ligatures placed in the connective tissue of the broad ligaments, and made mention of the fact that the cervix did not bleed. His experience, however, being limited to three cases, apparently he did not feel like generalizing concerning the control of bleeding.

Smith's paper on sub-peritoneal hysterectomy gives an admirable review of the management of the stump, and points out clearly the advantages of its retro-peritoneal treatment, and also the advantages of the isolated ligature of the vessels. The three cases operated upon by himself, however, were not very satisfactory, as in each case suppuration followed. His methods of ligation were not systematic, and he continued to use the temporary elastic ligature. This paper indicates that a number of British operators were favourably impressed by the principles discussed by Smith, but apparently this work has not borne fruit, as since 1892 the tendency in Great Britain has been toward total hysterectomy.

Prominent among the advocates of total hysterectomy in

Great Britain are Mr. Frederick Bowreman Jessett⁴⁸ and Dr. Christopher Martin.⁴⁹ Jessett deals with the peritoneal flaps in a manner similar to Polk.²⁶ He has devised also a sort of bi-valve speculum to assist in cutting through the vagina. It is similar to the "forceps" of Bardenheuer, and to the "staff" of Eastman and of Chrobak. Jessett reports eight operations, with one death.

Martin states that he learned the operation from Smyly. He reports six successful operations for myoma. He operates with the patient flat, failing to take advantage of the Trendelenburg posture, which so greatly simplifies the operation. He ligates the broad ligament in sections, as was done by Marcy, and later by Zweifel,⁵⁰ not taking advantage of the fact that all bleeding can be controlled by ligating the trunks of the four arteries. A reading of his description of the operation indicates how much more difficult it is when done with the patient flat, as contrasted with the same operation done in the Trendelenburg posture.

Technique of Supra-Vaginal Amputation for Myo-fibroma of the Uterus.—Having traced the development of supra-vaginal amputation for fibroid tumours of the uterus, it now remains to describe the operation. The operation is performed under rigid asepsis as regards the patient, the operator and assistants, and the operating room. The Trendelenburg posture greatly facilitates more especially the later steps of the operation, when dealing with the broad ligaments and the stump.

The steps of the operation may be summarised as follows :—

(1) Opening the abdomen through the right rectus muscle, near but not through the *linea alba*. The incision should be long enough to facilitate the delivery of the tumour.

(2) Separation of adhesions and delivery of the tumour. If necessary the tumour may be grasped with heavy volsellum forceps, which are much superior to the corkscrew.

(3) The intestines are carefully covered with gauze pads,

and a sponge is placed in the false pelvis on each side. If the gauze pads are well placed the intestines do not come into view during the operation.

(4) Ligation of the broad ligaments will be described first for a simple tumour, which does not distort the relations of the broad ligaments to the uterus. (a) Ligation of the upper border of the broad ligament external to the ovary. Catgut of fine silk is used, and the ligature embraces only enough tissue to secure the ovarian vessels. (b) A second ligature is placed which secures the vessels of the round ligament and embraces some of the tissue controlled by the first ligature. (c) A clamp is placed toward the uterine end of the broad ligament to control reflux hæmorrhage, and the upper border of the broad ligament down to and including the round ligament is divided between the ligatures and clamp. If more convenient the upper border of the broad ligament is divided before placing the second ligature. (d) The peritoneum on the anterior face of the broad ligaments and in front of the uterus is divided, the incision connecting one round ligament with the other, and the vesical peritoneum is pushed down with a sponge. Traction is made upon the tumour, which is rolled over to the opposite side, and the broad ligament is pushed away from the tumour or the uterus with a sponge, exposing the uterine vessels. (e) The vaginal cervix is located between the thumb and finger, and a ligature is placed low down on the cervix to secure the uterine artery external to the point where it turns up along the uterine wall. The ligatures are best placed with a sharp needle and carrier, this has manifest advantages over the ordinary aneurism needle. The ligature which controls the uterine artery should be passed through the external border of the cervix, but should embrace very little tissue in its grasp. (f) The same steps are then carried out upon the opposite broad ligament.

(5) The cervix is amputated below the level of the internal os, an effort being made to slightly cup the stump.

(6) The cervix is closed with a few interrupted catgut sutures.

EXPLANATION OF PLATE.

Fig. 1.—A mass ligature is shown embracing each ovarian artery, each round ligament and its vessels, and each uterine artery. The size of the stumps (mass included in each ligature) is exaggerated. The mass ligatures which secure the uterine vessels do not embrace the peritoneum.

The artery forceps are shown drawing out one ovarian and one uterine artery or the isolated ligature of each vessel.

The amputated cervix is shown with its surface slightly "cupped."

The anterior flap of peritoneum is shown—peritoneum from the anterior face of the broad ligaments and vesical peritoneum. A posterior flap is not made.

Fig. 2.—Each ovarian and each uterine artery has been ligatured by an isolated ligature as well as by a mass ligature.

The upper surface of the cervix has been sutured with interrupted catgut sutures. These sutures embrace the peritoneum of the posterior wall of the cervix, but not the anterior flap of peritoneum.

The closure of the peritoneal wound is indicated. The peritoneal wound is closed with a continuous Lembert catgut suture. The anterior flap is drawn over the wound like a hood or cap, and is fastened by a line of suture to the posterior face of broad ligaments and the posterior surface of the cervix. This renders the cervical stump retro-peritoneal.

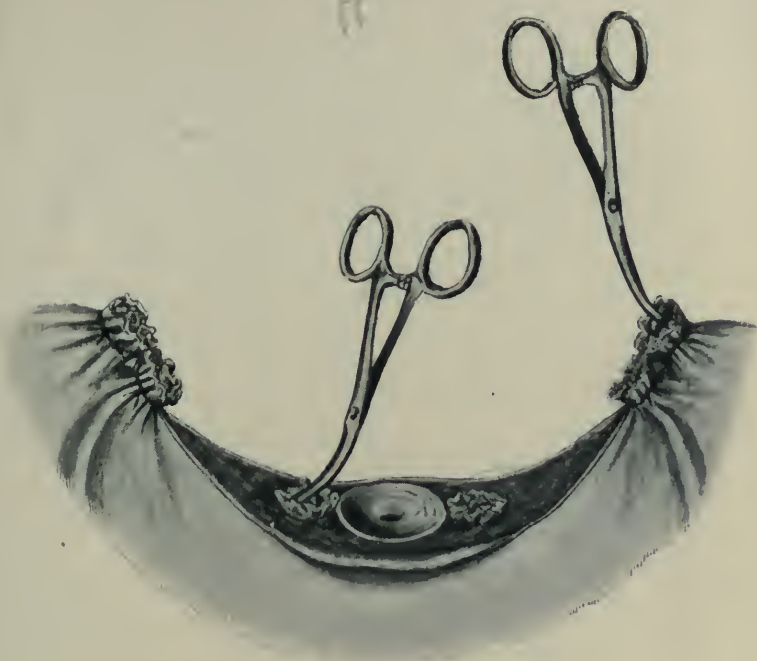


FIG. 1.



FIG. 2.

Marysville Washington

(7) Each uterine and each ovarian artery is caught with an artery forceps and is ligated with fine silk, the ligature embracing the artery only.

(8) Should oozing points be found (which is unusual), the oozing is controlled by placing fine catgut ligatures.

(9) The vesical peritoneum and that from the front of the broad ligaments is stitched over the open broad ligaments and stump with a continuous Lembert catgut suture. This suture begins and ends below the plane of the round ligaments, so that the upper borders of the broad ligaments are not buried under the peritoneal flap. The suture is introduced so as to draw the peritoneal flap snugly over the stump, in this way avoiding the formation of a dead space, with a loose peritoneal covering.

(10) The pelvis is washed out with normal salt solution. It is well also to wash the stump of the cervix with the salt solution before covering it with the peritoneal flap.

(11) After removing the gauze and sponges the abdominal wound is closed.

If the tumour is anomalous in its development and opens up one or both broad ligaments, the *technique* of the operation must be varied to suit the case. In such a case the method of Kelly or that of Pryor can be adopted. In several cases the following method has given me great satisfaction :—The ligation is made in the usual way on the easy side. Then the ovarian vessels upon the involved side are secured. The relations of the upper border of the broad ligaments may be entirely distorted by the intra-ligamentous development of the tumour, but the vessels can be found and ligated without difficulty. When spread out over the tumour, they are best picked up (especially the veins) by passing a blunt aneurism needle under them. The round ligament may be widely separated from the ovarian vessels. A separate ligature is placed to secure the vessels of the round ligament. Clamps are placed to control reflux hæmorrhage. The round ligament is then cut through and the peritoneum in front of the tumour is incised, and the

incision is carried across the front of the uterus to the opposite side. The bladder is then pushed down, and the peritoneum is pushed off the anterior face of the tumour. Careful search is made for the ureter, as in such cases it may run over the anterior face of the tumour, although I have never found it in this location. The ovarian vessels are next divided, and the peritoneum is incised on the posterior face of the tumour. The tumour is then enucleated by making traction upon it with the hand or with volsellum forceps, and by pushing the peritoneum and connective tissue off from the tumour with a sponge. At this stage all vessels have been secured except the uterine artery upon one side, and if the tumour is peeled out of its bed by pushing the connective tissue away with a sponge, no hæmorrhage results. After enucleation and delivery of the tumour, the uterine vessels upon the involved side can be ligated in the usual way.

When both broad ligaments are distorted by intra-ligamentous development of the tumour or tumours, I have in some cases placed temporary ligatures internal to the ovaries upon both sides to control hæmorrhage from the ovarian arteries. By placing clamps near the horns of the uterus to control reflux hæmorrhage, the upper border of the broad ligaments can be cut through and the vessels of the round ligaments secured in the usual way, and the tumours enucleated by traction and pressure with a sponge as already described. After delivery of the tumours ligation of the uterine vessels is simple. The cervix is then amputated and closed. Permanent ligatures are placed external to the ovaries and the appendages are removed. Finally, the peritoneal flap is sutured in the usual manner. This method is especially valuable when the tumour is impacted in the pelvis, and the appendages are densely adherent beneath the tumour. When using Kelly's method I have usually made the first step of the operation the ligation of the ovarian artery upon the "involved side," otherwise following the directions laid down by Kelly.

A few steps in the operation are of sufficient importance to be worthy of recapitulation. Fine silk or catgut should be employed for mass ligatures, and a relatively small amount of tissue should be included in each ligature. The four main arteries should each have a separate ligature of fine silk placed upon it, in addition to the mass ligature. By following this rule I have never had either a primary or a secondary hæmorrhage after hysterectomy. The value of a sponge, held in a sponge-holder, to push off the broad ligaments from the uterus or from the tumour, cannot be over-estimated. This point in *technique* I learned from Dr. Kelly. It greatly facilitates and renders practically bloodless the enucleation of tumours. After the upper portion of the broad ligament is divided, including the round ligament, the remainder of the broad ligament contains only connective tissue, which is easily pushed away from the tumour or the uterus. No cutting instrument is needed for this purpose. I prefer to close the cervical stump with a few catgut sutures, to guard against possible secondary infection from the vagina. In all cases when practicable the uterus is curetted, and the uterine cavity washed out as a preparatory step to the hysterectomy. By using catgut in the cervix and for mass ligatures, the silk ligatures near the cervix are reduced to two fine individual ligatures. This method reduces the risk of infection of the pedicle ligatures to a minimum, and practically to zero.

The Present Status of Supra-Vaginal Amputation for Myo-fibromata of the Uterus.—In order to determine the mortality of supra-vaginal amputation for myo-fibroma of the uterus, I have secured the statistics of Drs. Kelly, Baldy, Penrose and Boldt for the past three years, and my own statistics since I began to perform the operation in 1891. It is believed that the results of a few well-known gynæcologists for a definite length of time, will give a more correct approximation of the present mortality of the operation than a collection of cases from a larger number extending over varying periods of time.

*Supra-Vaginal Amputations for Myo-Fibromata of the Uterus
for the Years 1894, 1895, 1896.*

Operator.	Cases.	Deaths.
Dr. Howard A. Kelly	155	7
Dr. John M. Baldy	56	2
Dr. Charles B. Penrose... ..	57	4
Dr. Herman J. Boldt	11	0
Dr. Charles P. Noble,* May 28, 1891, to April 5, 1897	66	4
	—	—
Total ...	345	17 = 4.9 %

Total Hysterectomy for Myo-Fibromata of the Uterus.

Operator.	Cases.	Deaths.
Dr. Wm. M. Polk,† 1894, 1895, 1896	24	1
Dr. Herman J. Boldt, 1894, 1895, 1896	28	1
„ 1893, 1897	27	1
„ prior to 1893	21	7

* Ten hysteromyomectomies were performed prior to 1894, and six hysteromyomectomies in 1897. Of the sixty-six hysterectomies, the first three were treated by the extra-peritoneal method; in two the Koeberlé *serre-nœud* was used, and in one the rubber ligature; in two cases abdominal pan-hysterectomy was performed, and in one combined vaginal and abdominal pan-hysterectomy.

† It was intended to have a similar number of cases to report, operated upon by prominent advocates of total hysterectomy for fibroid tumours. Drs. Polk and Boldt kindly sent their statistics, but the other gentlemen who were asked failed to respond. The statistics of Drs. Polk and Boldt not being sufficient to make a fair comparison, Olshausen's table, which is the latest published, is presented. Dr. Polk has furnished his results in vaginal hysterectomy for fibroid tumours. He has had twenty-one vaginal hysterectomies, with one death. Dr. Boldt performed eleven supra-vaginal amputations of the uterus for fibromyomata in 1896 and 1897. He writes that he looks upon this operation "with more favour than formerly, and may do it more and more."

Comparison of Results in Supra-Vaginal Amputation and in Total Extirpation of the Uterus. (R. Olshausen, M.D., Veit's "Handbuch der Gynakologie," 1897, p. 713.)

<i>Supra-Vaginal Amputation.</i>				<i>Total Extirpation.</i>			
Operator.	No.	Deaths.		Operator.	No.	Deaths.	
Zweifel	122	5		A. Martin	90	6	
Treub	100	7		Lennander	16	1	
Olshausen, 1892-96	100	6		Polk	16	2	
Chrobak	42	2		Chrobak	20	0	
Rosthorn	30	1		Schauta	61	5	
Runge	27	1		Boldt	19	6	
Baer	34	2		Küstner	20	3	
Brennecke	26	0		Eastmann	79	8	
Johannovsky	23	4		Hall	10	1	
Mann	15	1		Doyen	28	4	
Léonte, 1887-94 ..	26	0		Délagènière ..	20	1	
Goffe, 1888-95 ..	15	1		Jacob	15	6	
Johnson	17	1		Snegireff	23	0	
Lauwers	26	1		Carle	54	1	
Delétréz, 1890, un-				Krug	17	2	
til August, 1895	50	5		Le Bec	19	3	
Térillon, until 1892	36	3		Smyly	11	1	
Leopold	21	0					
Tauffer's Clinic ..	45	4					
Küstner	50	1					
Total	806	45 = 5.6 %		Total	520	50 = 9.6 %	

Comparison of Supra-vaginal Amputation with Total Extirpation.—A comparison of the tables presented indicates that the mortality of supra-vaginal amputation is a little more than one half that of total extirpation for myofibromata of the uterus. This, I believe, represents the relative risks of the two operations. My personal experience with total extirpation for fibroid tumours is small: but in the cases of fibroid tumour, in those of inflammatory disease, and in cases of cancer, it has been sufficient to give me a realisation of the much greater technical difficulties of total extirpation as compared with supra-vaginal amputation. From my standpoint, the disadvantages of total extirpation as compared with supra-vaginal amputation are as follows:—(1) The operation requires a longer time—

probably fifteen minutes longer. (2) Hæmostasis is not so satisfactory, because in addition to the ovarian and the uterine arteries, branches from the vaginal and the middle hæmorrhoidal arteries must be dealt with. (3) The vagina is opened, and although this may be cleaned previously it cannot be done perfectly, and the risks of infection from soiling the fingers or instruments, and, secondarily, the peritoneum, are increased. (4) Even if the operation is carefully done, and the peritoneal cavity is shut off by a continuous symperitoneal suture, it is still necessary to employ drainage of the subperitoneal space—that is, the bases of the broad ligaments and the cut vaginal walls. This entails a granulating wound, infected ligatures, and the possibility of septic absorption.

The single advantage which total extirpation has over supra-vaginal amputation is, that in certain cases the cervix is diseased, and in such cases it is best to remove it. Those who favour total extirpation allege also that if the cervix is not removed, at times it becomes the seat of cancer.

It is alleged by the opponents of supra-vaginal amputation, that if not removed the cervix will slough, that suppuration will occur under the peritoneal flap, and that the ligatures in the cervix and about the uterine arteries will become infected and give rise to subsequent trouble.

My experience is the reverse of this. Some years ago when I employed silk exclusively as suture material, I did have late infection in a few cases from the cervical canal, and these patients were annoyed until the sutures were discharged. Since using catgut in suturing the cervix and for mass ligatures, I have had no trouble whatever. In none of the cases has suppuration occurred under the flap of peritoneum, and this statement is equally true of hysterectomy for pelvic inflammation. The more recent bacteriological studies have shown that Schroeder and his disciples entertained an undue fear of infection from the uterine and the cervical canal; and were this not the case, the practical experience of those who perform supra-vaginal

amputation has proved this to be true. When the cervix sloughs or infection takes place, the reason is to be sought rather in faulty ligation and in infection from the operator's fingers, and these preventable accidents should not be attributed to infection from the cervical canal.

A practical point bearing upon the relative merits of supra-vaginal amputation *versus* total hysterectomy is the fact that a number of the advocates, in America, of total hysterectomy have adopted vaginal hysterectomy for small tumours. This is not true of those who perform supra-vaginal amputation. Were the advocates of total hysterectomy satisfied with their results, they would not adopt an inferior procedure. This tendency, it seems to me, is to be explained by the relative crudeness of the *technique* of total hysterectomy. Those who perform this operation are accustomed to the idea of having the ligatures about the uterine arteries and those about the cut vaginal walls become infected and come away by necrosis and suppuration. They are accustomed to the idea of a granulating infected wound, and to drainage of the supra-vaginal (sub-peritoneal) space. Those who employ the less perfected *technique*, and who omit the suturing of the peritoneum to shut off the peritoneal cavity from the wound, employ drainage of the healthy peritoneum. Habituated as they are to an infected granulating wound with more or less necrosis, and to gauze drainage and more or less foul vaginal discharges, they can contemplate vaginal hysterectomy without repugnance. The after consequences of the two are similar in kind, although greater in degree in vaginal hysterectomy. To those who perform total hysterectomy it becomes more a question as to whether they prefer to operate from above or from below.

On the other hand, because of the perfection of its *technique*, those who perform supra-vaginal amputation have to deal only with the healing process after the operation is completed. Inflammation, infection of ligatures, necrosis, drainage and foul discharges, have been eliminated. Hence

to them vaginal hysterectomy is repugnant because it would compel them once more to contend with the disagreeable and more or less dangerous consequences of a crude *technique* which they have eliminated from their work.

Since it has been demonstrated that drainage is necessary only in the rarest instances in pelvic surgery, supra-vaginal amputation meets every indication. The necessity for drainage is obviated by the careful ligation of bleeding points and thorough aseptic work. When the peritoneum is unavoidably soiled by pus or other discharges, the pelvis should be carefully washed with normal salt solution to wash away or to dilute as much as possible the infectious material. After the cleansing has been thoroughly done, the peritoneal cavity is filled with normal salt solution, so as to further dilute the infectious material and to scatter any germs which may remain. In this way a given portion of peritoneum has to deal with a minimum number of germs.

Vaginal Hysterectomy for Fibro-myomata.—The scope of this paper will not permit a careful inquiry into the relative status of supra-vaginal amputation of the uterus and vaginal hysterectomy for fibroid tumours. My own experience with the latter operation embraces but a single case, which I was driven to perform to arrest hæmorrhage after a vaginal myomectomy. Leaving aside any question as to the relative mortality of the two operations, which probably is a question of the operator rather than of the operation, my objection to vaginal hysterectomy for fibroid tumours is fundamental. Vaginal hysterectomy violates several principles which in my judgment should be the foundation of modern gynaecological surgery.

(1) It violates the principles of true conservatism. Myomectomy and not hysterectomy is the ideal operation for fibroid tumours. Myomectomy by the vaginal route is not practicable except for small fibroids; and even when the tumours are small, unless the tumour is sub-mucous or springs from the uterus low down, the operation is best done from above.

(2) Vaginal hysterectomy by the clamp method, and even by the ligature method, entails the deliberate induction of the process of sloughing, which is repugnant to all refinement in surgical *technique*.

(3) When clamps are used it is necessary to employ drainage even in the healthy peritoneal cavity, in order to shut off the general peritoneal cavity with gauze from the sloughing field of operation.

These objections to vaginal hysterectomy for fibroid tumours are so obvious, that in my judgment it will be abandoned in favour of abdominal section.

Removal of the Ovaries for Fibroid Tumours.—The removal of the ovaries for fibroid tumours as a substitute for hysterectomy no longer offers any advantages except in rare instances. As a general statement the mortality of the two operations is about the same. When it is considered that when hysterectomy is performed if the patient recovers the disease is definitely cured, whereas if the ovaries are removed the convalescence is necessarily a slow one, and that in a definite percentage of cases the tumours continue to grow or bleed, there can be no question as to which operation is preferable. I would remove the ovaries for fibroids only in the case of small tumours with persistent hæmorrhage, palliative measures having failed. If driven to operate under these circumstances, and the patient seemed too feeble to stand anæsthesia for the length of time necessary to perform hysterectomy, I would remove the ovaries. My experience with the operation embraces twelve cases. In one only one appendage was removed, as it was impossible to find the other one. In this case the cervix was amputated and the uterine arteries ligated from the vagina; some weeks after the ovaries were removed. The last operation was done in 1893. All the patients recovered from the operation, and the final results were fairly satisfactory.

Early Operation for Fibroid Tumours.—The foregoing table indicates that the mortality of supra-vaginal ampu-

tation of the uterus for fibroid tumours, under the conditions which exist at present, is 5 per cent. Unquestionably this mortality rate is greater than it otherwise would be, were it not for the fact that both surgeons and practitioners are still influenced by the traditional teaching that fibroid tumours should only be removed when they directly threaten life, or produce such symptoms as to render existence insupportable. The tendency has been to postpone operation until the patient is greatly reduced by repeated hæmorrhages and is suffering from chronic anæmia. In other cases, in which disease of the uterine appendages exists as a complication, the women are advised to submit to operation only after repeated attacks of peritonitis. These attacks have not only broken their general health, but also have rendered operation more difficult and dangerous through the formation of dense adhesions. Pressure symptoms compel others to submit to operation. The tumours may press upon the bladder, ureters, or bowels. In immense tumours the mere bulk of the growth may embarrass the abdominal and thoracic organs. Other cases are complicated by the occurrence of calcareous, necrotic and sarcomatous degeneration ; in other words, the policy of delay, which has been followed almost universally in the past, has had the result that a large percentage of the patients submitting to operation for fibroid tumour have been in bad general condition. One hazards little in making the statement that the risk of removing an uncomplicated fibroid tumour from a woman in good general condition by supra-vaginal amputation of the uterus is not more than 1 or 2 per cent., and this percentage is an allowance for the possibility of accidental infection, and the possible occurrence of accidents, which are common to all surgical operations.

As bearing upon the question of early *versus* late operation for fibroids, the following analysis of my own cases of hysterectomy is presented, showing the various degenerations and complications which were encountered :—

Cystic degeneration	...	...	...	...	...	3
Sarcomatous degeneration*	...	...	...	...	...	3
Calcareous degeneration	...	...	...	...	...	3
Necrosis of the tumour	...	...	...	...	...	2
Bilateral hydro-salpinx	...	...	..	...	...	4
Unilateral hydro-salpinx	...	...	...	...	...	4
Bilateral pyo-salpinx	...	...	...	...	...	4
Unilateral pyo-salpinx	...	...	...	...	...	2
Unilateral ovarian cyst	...	...	...	...	...	4
Bilateral dermoid ovarian cyst	...	...	...	...	...	1
Parovarian cyst	...	...	...	...	...	1
Ovarian cyst, ruptured tubal pregnancy, appendicitis	...	...	...	...	...	1
Intra-ligamentous development of the tumour	...	...	...	...	...	6

The number of myomata was not noted, and the number of cases in which myxomatous degeneration was present was not noted, although a considerable number have been met with. In 1 case, in which bilateral hydro-salpinx and an ovarian tumour complicated a fibroid tumour of the uterus, carcinoma of the pelvis developed within a year after the operation. Whether the uterus or the ovary was the original seat of the carcinoma is not known.

A review of this table indicates that 20 of these women would have died as a result of degeneration in the tumour itself, or of the complicating disease of the tubes or ovaries. Among the 20 is included 1 case in which a calcareous fibroid had produced renal disease by pressure on the right ureter in a woman 67 years of age.

It is difficult to estimate the number that would have died directly or indirectly from hæmorrhage; from chronic anæmia, the result of hæmorrhage; and from intercurrent diseases, the result of malnutrition. It is a safe statement that from 20 to 25 of these women would have died as a result of their disease—that is, from 30 to 38 per cent.

Thirteen women, or 20 per cent., had passed the usual period of the menopause, when, according to the

* In one the diagnosis was not absolute. The tumour was necrotic, and the diagnosis of the pathologist was sarcoma or necrotic fibroid. The patient died within a year of symptoms suggestive of sarcoma of the liver.

traditional theory, they should have been relieved of their symptoms, or their tumours should have atrophied.

Three cases of cancer of the cervix, in which hysterectomy was not performed, have been observed. In one the Apostoli method of treatment had been applied for months in Paris ; in another a hysterectomy was attempted, and abandoned owing to malignant infiltration of the broad ligaments ; in the third, operation was advised against because of cancerous infiltration of the broad ligaments. These 3 cases, added to the 3 sarcomata and the one case of carcinoma already mentioned, indicate that malignant disease may be a more frequent complication of fibroid tumours than is usually believed.

Necrosis of fibroid tumours is more common in the sub-mucous variety than in intra-mural or sub-peritoneal tumours. Of 17 fibroid tumours which I have removed *per vaginam* 5 were necrotic. These 5 cases added to the 2 in which hysterectomy was performed, makes a total experience of 7 cases of necrosis among the operative cases.

Several other cases of necrosis and suppuration of fibroid tumours have come under my observation. One is of especial interest from the standpoint of the doctrine that fibroid tumours cease to give trouble after the menopause. This lady was the wife of a physician, who years ago had a local reputation as an ovariologist. From the age of 35 to 55 she was an invalid because of hæmorrhages due to a fibroid tumour. The menopause was established at 55 and her health improved, but she never became well. When more than 70 years of age she took a ride over a rough country road. The jolting interfered with the circulation in the tumour, and necrosis followed. A large pelvic abscess formed, and of this eventually she died. When she came under my observation, owing to her age, her bad general condition, and the presence of an acute bronchitis, operation was not advisable. This woman waited through twenty years of invalidism for the menopause. She was then a semi-invalid for the remainder of her life, and finally died

of her tumour, after having suffered more or less from it for more than thirty-five years. This case was regarded for many years as an example of spontaneous cure of a fibroid tumour after the menopause.

Young women who are not operated upon must run the risk of pregnancy and labour complicated by a fibroid tumour. This risk varies with the size and location of the tumour. In considering the disadvantages of the policy of delay in the treatment of fibroid tumours, this factor must not be overlooked.

A study of my cases of hysterectomy indicates that from 30 to 38 per cent. of the women would have died as a result of their disease without operation. This is to be contrasted with the mortality of 6 per cent. which followed the operation. A study of the 4 fatal cases shows that in 3 of them the fatal termination is fairly attributable to the policy of delay. The first death (Case No. 15) occurred in a sterile married woman, aged 45. She had a multi-nodular uterine fibroma, with bilateral hydrosalpinx. She was much broken down in health, and had had numerous attacks of pelvic peritonitis. She died of septic peritonitis three days after the operation, which at the time was attributed to infection from rupture of the hydrosalpinx during the operation. There can be no doubt that a very direct relation existed between her feeble condition, due to chronic invalidism, and the fatal termination. The second death (Case No. 23) occurred in a widow, aged 67, mother of one child. She had a multinodular uterine fibroma. One nodule, which filled the abdomen, had become cystic; another, which filled the pelvis, was calcareous. The pelvic nodule upon examination presented a close similarity to a foetal head, and made the case somewhat suggestive of an extra-uterine pregnancy, with death of the foetus at term. The calcareous fibroid by pressure on the right ureter had caused disease of the right kidney. Owing to the age of the patient and the existence of chronic nephritis, a bad prognosis was given, but the patient

insisted upon operation because of the torment which she suffered from a never-ceasing desire to empty the bladder. This symptom had resisted long-continued medical treatment. The patient stated that she had conscientious scruples against committing suicide, but unless it were certain that the operation would be fatal she wished it performed. She died of suppression of urine on the fifth day. This death undoubtedly is to be charged to the policy of delay. It is a striking commentary upon the promises which were held out to this woman, that if she had patience to wait until the menopause her symptoms would disappear. Her history makes it probable that the tumour began to grow when she was 38 years of age. The menopause was established at 52. The third death (Case No. 49) occurred in a sterile married woman, aged 32. She had been a semi-invalid for some years, but was in fair general condition. She died at the end of ten days, either from a late septic infection or from intestinal auto-intoxication. No autopsy was permitted. This patient, after having slight fever for one day, did well until the eighth day. The temperature and pulse were normal, the appetite was good, the wound healed by primary union, and she was in excellent condition and spirits. At the end of eight days she began to vomit, and vomited incessantly until her death. The abdomen continued scaphoid, the bowels moved without trouble, no exudate could be felt in the pelvis, nor was there any pain in any part of the abdominal cavity. Shortly before her death there was a slight rise of temperature. The death was an anomalous one. The fourth death (Case No. 51) occurred in a married woman, aged 35, a multipara. She had a large multinodular fibroid tumour. One nodule extended to the ribs, another nodule was incarcerated in the pelvis. She had a right pyo-salpinx and extensive bowel adhesions, including the vermiform appendix. The adherent pelvic tumour was delivered with difficulty, and only after considerable traction. The tumour and diseased appendages were removed, and also the vermiform appendix.

The bowel, although not perforated, was wounded at two points, which were sutured. She died within forty-eight hours of acute peritonitis. A small rent was present in the rectum, which was produced when the adherent tumour was delivered, and which was overlooked when the condition of the bowel was examined after the removal of the tumour. Her death was greatly hastened by an enema of Epsom salts, glycerine, turpentine and water, a part of which escaped into the peritoneal cavity. This death was due to an accident, which in turn was due to delay in operation until the tumour became large enough to be firmly impacted and adherent in the pelvis.

The evidence which has been presented is clearly not in accord with the traditional theories and practice concerning fibroid tumours of the uterus. It seems to me that the time has arrived when fibroid tumours should be considered from the modern instead of the ancient standpoint. The theory of the natural cure of fibroid tumours by the menopause should be sharply revised. It is true that in a certain number of cases the tumours become smaller after the menopause, and it is possible that in some cases they have disappeared. The evidence on this latter point, however, is very unsatisfactory. On the other hand, the menopause is not established at the age of 45, and frequently not until the age of 55. In a large percentage of cases the tumours continue to grow, undergo degenerative changes, or produce such suffering after the menopause that operation is necessary; in other words, a practitioner is not warranted in promising a woman having a fibroid that if she will submit to the sufferings due to the tumour until the menopause is established, she may expect to be free from them thereafter. Ample evidence is available, of a character similar to that which has been presented in this paper, to satisfy those with a mind open to conviction, that the traditional teaching concerning the real gravity of fibroid tumours greatly minimises the danger of these growths. There is as much difference between the traditional and actual estimate of

their gravity as between the risks of operation for fibroids ten years ago and at the present time.

The facts which have been presented inevitably force the conclusion that the proper line of practice in the treatment of fibroid tumours is to operate early, while the tumours are small, and before the health of the patient has been broken down. This is the truest conservatism. (1) It conserves the life of the patient by ensuring a low death rate after operation. (2) It conserves the integrity of the organs of generation by making it possible to perform myomectomy in a larger percentage of cases. (3) It offers years of usefulness and good health as contrasted with years of invalidism or a semi-invalidism.

The so-called conservatism of the past conserves only the continued growth of the tumour and the continued ill-health of the patient, two objects in favour of which it is difficult to adduce arguments.

So difficult is it to shake off early teachings, which later become prejudices, that I still find myself advising delay in the case of small tumours, more especially the multinodular sub-peritoneal variety, which are producing few or no symptoms, in women who are approaching the period of the menopause; although I very much question whether the risk of even such tumours is not greater than the operation for their removal.

From time to time, as the evidence in favour of early operation became greater, I have advocated a wider departure from the lines of practice which formerly were generally followed.⁵¹

To advocate a departure from traditional practice renders one liable to the charge of radicalism, and perhaps on this account less has been said than otherwise would have been concerning early operation for fibroid tumours. To be considered radical is unpopular; but the time has now arrived when the more rational practice may be advocated upon the grounds of genuine conservatism.

Myomectomy.—Myomectomy is the ideal operation for

fibroid tumours of the uterus. It not only cures the patient of her disease, but restores her sexual organs to functional integrity. The next advance in the treatment of fibroid tumours will be the early resort to operation, with the distinct purpose of substituting myomectomy for hysterectomy in a large percentage of cases. Myomectomy, of course, is only indicated in women of child-bearing age. My own experience with myomectomy embraces 22 cases, as compared with 66 abdominal hysterectomies and 1 vaginal hysterectomy; 5 of these cases were operated on by the abdominal route and 17 by the vaginal route. All of them not only recovered from the operation but were restored to health. Of the cases operated upon *per vaginam*, in 6 the cervix, and, if necessary, the uterus was split in order to reach the tumour. I have split the uterus bilaterally far above the internal os, in order to secure the room necessary to enucleate sub-mucous or interstitial fibroids situated near the fundus. In such cases if necessary the uterine arteries may be tied, but this is seldom required. The incision in the uterus should be sutured with catgut. Of the 22 cases, as yet none have returned with a tumour developing from fibroid nodules left behind.

CONCLUSIONS.

Surgery is indebted to America for ovariectomy and for hysterectomy for fibroids. Ovariectomy was originated by McDowell in 1809, and hysterectomy must be considered as an outgrowth from it, the first fibroid tumours having been operated upon with a diagnosis of ovarian tumour. The first hysterectomy for a fibroid tumour deliberately undertaken was performed by Kimball in 1853.

The type of hysterectomy in America has been supra-vaginal amputation. This method was adopted by Kimball and by Burnham in 1853. Many surgeons of all countries have worked in this field, notably Schroeder; but in the evolution of the operation the steps in the *technique* which

have rendered it simple and safe have been originated by other American surgeons. These steps are notably :—

(1) The retro-peritoneal treatment of the stump—Emmet, 1884 ; Eastman, 1887 ; Dudley and Goffe, 1890.

(2) The ligation of the trunks of the ovarian and the uterine arteries in their course through the broad ligaments—Stimson, 1889 ; Baer, 1892.

(3) Amputation through the cervix well below the internal os, and the omission of constricting ligatures in the tissues of the cervix—Baer, 1892. The substitution of a few catgut sutures to close the cervix and prevent secondary infection from the vagina through the cervical canal.

(4) The origination of a systematic *technique* for the removal of intra-ligamentous fibroid tumours—Pryor, 1894 ; Kelly, 1896.

The mortality of fibroid tumours is greater than it is usually stated. It much exceeds the mortality of operation for the cure of the disease.

The mortality of supra-vaginal amputation for fibroid tumours of the uterus at the present time is about 5 per cent.

The mortality of total hysterectomy for fibroid tumours of the uterus at the present time is about 9 per cent.

The mortality of hysterectomy is greatly increased by the traditional policy of delay in advising operation for fibroid tumours, which still influences both practitioners and surgeons.

Early operation for fibroid tumours should be urged upon the basis of genuine conservatism as contrasted with spurious conservatism. Early operation ensures a low mortality. It permits the substitution of myomectomy for hysterectomy in women of child-bearing age in a larger percentage of cases than is possible with tumours of large size. It conserves the life and the health of the patient, and when myomectomy can be performed, restores her sexual organs to functional integrity.

The policy of delay, or spurious conservatism, conserves

only the continual growth of the tumour. It entails upon patients years of invalidism or semi-invalidism, and subjects them to much greater risks than those of early operation. Finally, many of those who have suffered for years in the hope of relief without operation, are obliged to submit to hysterectomy, when their chances for recovery are much less than had the operation been done early.

Myomectomy is the ideal operation for fibroid tumours. The next advance in the treatment of fibroid tumours will be the acceptance of early operation, with the definite purpose of substituting myomectomy for hysterectomy in women of child-bearing age, in cases having only a small number of fibroid nodules.

LITERATURE.

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SARCOMA OF THE UTERUS.

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OUR knowledge of this disease is fragmentary and imperfect ; hence, in what follows, I shall oftener have to refer to individual cases than to generalised statements. It may, however, be said, that all forms of sarcoma met with elsewhere are also found in the uterus. In this organ the disease is certainly very rare, for my analysis of 2,649 consecutive cases of primary uterine neoplasms comprises only two examples, whereas it includes 1,571 cancers and 883 fibro-myomas. Similarly of Gurlt's 4,115 uterine neoplasms only eight were sarcomatous. The considerable number of cases of uterine sarcoma lately reported suggest the probability of the disease being of rather more frequent occurrence than these figures indicate ; and, contrary to the prevailing belief, it appears that the cervix is as often affected as the corpus.

For descriptive purposes it will be convenient to consider uterine sarcomata under the following heads :—(I.) *Infantile forms* ; (II.) The *grape-like* or *botryoidal* form ; (III.) Sarcoma of the *mucosa* ; (IV.) Sarcoma of the *parenchyma* ; and (V.) *Deciduoma malignum*.

§ I.—INFANTILE FORMS.

In early life the uterus, like the mamma, is very seldom attacked by any form of malignant disease. This relative immunity, which contrasts so markedly with their subse-

quent proclivity to diseases of this type, is probably due to the rudimentary condition of these organs at birth and during infancy ; for it must be remembered that the essential features of their anatomy are almost entirely of post-embryonic origin.

Although no example of congenital malignant disease of the uterus has hitherto been recorded, it is probable that most infantile forms of the disease are of blastogenic origin. Of seventy-three uterine sarcomata tabulated by Gusserow,¹ four originated under the age of 20 years. Most cases of this kind present as polypoid tumours springing from the inferior segment of the uterus ; they are usually multiple *ab initio* ; and they are often accompanied by polypoid excrescences of the adjacent mucosa. Not unfrequently they contain various heterotopic elements, such as striped muscle tissue, epithelial islets, &c. In these and in other respects they much resemble the analogous growths met with in the vagina of children ; and, as a matter of fact, both organs are occasionally thus affected as well as the urethra and bladder. It is probable that these neoplasms arise from aberrant cellular elements displaced from their normal connections during the development of the part. As a rule they recur rapidly after removal and are highly malignant.

In a case reported by Holländer² the patient was only 7 months old when the disease was first noticed. It soon recurred after local ablation. On examination two months afterwards a mass of sarcomatous growth was found projecting from the portio and the adjacent part of the vagina. In its vicinity were numerous polypoid excrescences. In order to remove the entire disease, the uterus and vagina were extirpated by the sacral way. The child made a good recovery. The neoplasm was a round and spindle-celled fibro-sarcoma, identical in structure with the primary sarcomatous polyp.

¹ *Deutsche Chir.*, Lief. 57, "Die Neubildungen des Uterus," S. 168, 1885.

² *Zeitschr. f. Geb. u. Gyn.*, 1896, S. 125.

In C. T. Smith's case,³ a child, 3 $\frac{3}{4}$ years old, had a tumour of this kind of eight months' duration, which projected into the vagina. It recurred rapidly after excision, and two months later it was removed again. Recurrence soon followed, and an abdominal tumour then appeared, which rapidly increased. She died thirty-three days after the last operation. At the necropsy the abdomen was distended by a large purplish tumour connected with the uterus. The peritoneum contained ascitic fluid. There was double pyonephrosis, with acute nephritis and miliary abscesses of the right kidney. The tumour, which weighed thirty-one ounces, was a round-celled sarcoma of liver-like aspect. The mucosa of the uterus and vagina was thickly studded with small mucous polypi.

Similar instances have been reported by Farnsworth⁴ at 13 months, by Pick⁵ at 2 years, by Ahlfeld⁶ at 3 years and 4 months; and at various ages by Hereford,⁷ Clay,⁸ and Pick.⁹

These neoplasms are evidently nearly allied to the racemose or botryoidal sarcomata to be presently described.

As connecting links, the following cases at rather more advanced ages, by Ahlfeld¹⁰ and Kaschewarowa¹¹ at 15 years, and by Wirtz¹² at 17 years, may be cited.

In Kaschewarowa's case, the patient was a maid of 15 who had never menstruated. The disease, when first noticed, presented as a polypoid outgrowth from the anterior lip of the portio. Six weeks after its excision a recurrent growth, the size of a hen's egg, had formed, which increased rapidly to the size of the foetal head. Death ensued five months after the tumour was first noticed, of tubercle of the lungs. Histologically the neoplasm was a spindle-celled myxo-sarcoma, with areas of striped muscle cells scattered through it. Similar rhabdo-myxomatous elements were found in Wirtz' case.

³ *American J. Obstet.*, xvi., 1883, pp. 555 and 669.

⁴ *Phila. Med. and Surg. Rep.*, August 26, 1871.

⁵ *Arch. f. Gyn.*, Bd. xvi., 1894, S. 191.

⁶ *Arch. f. Gyn.*, Bd. xvi., 1880, S. 135.

⁷ *Trans. Obstet. Socy., Lond.*, vol. x., 1868, p. 224.

⁸ *Lancet*, vol. i., 1877, pp. 5 and 47.

⁹ *Op. cit.*

¹⁰ *Zeitschr. f. Heilkunde*, Bd. viii., S. 560.

¹¹ *Arch. f. Path. Anat.*, Bd. liv., 1872, S. 63.

¹² *Inaug. Diss., Bonn*, 1891.

Other instances of uterine sarcoma have been reported by Simpson,¹³ at 11 years, and by Zweifel¹⁴ at 13 years.

Many of the malignant tumours of infancy and early life contain epithelial or quasi-epithelial elements, and this has often led to their being christened "cancer"; but it is now generally recognised that all such neoplasms really are sarcomatous. Several instances of this kind have been reported as occurring in the uterus.

Rosensteins' patient,¹⁵ only 2 years old, came under treatment for dysuria, caused by an intra-abdominal tumour, which reached far above the pubes. The inguinal glands were enlarged. She died shortly afterwards. At the necropsy a large mass of new growth was found in connection with the fundus uteri. There were several nodules of similar growth on the peritoneal surface of the bladder. The uterine mucosa was unaffected, as well as that of the tubes and vagina. Both ovaries were normal. Histologically, the tumour consisted of a spindle-celled stroma, the meshes of which contained large, polymorphic epithelioid cells. It is described by the author as "carcino-sarcoma."

This anomalous neoplasm appears to me to approximate more closely to angio-sarcoma, than to any other well recognised type.

Similar cases have been reported by Laidley¹⁶ at 2½ years, and by Barnes¹⁷ at 9 and 10 years respectively.

Braetz¹⁸ has lately described an instance of endothelioma lymphaticum of the cervix uteri in a girl of 18. It presented as a bleeding papillary tumour, projecting from the posterior lip of the "os." The growth was extirpated *per vaginam*, together with the whole uterus. The patient recovered from the operation; but she died four weeks afterwards of some unknown cause.

¹³ *Edinburgh Obstet. J.*, May 14, 1862.

¹⁴ *Cent. f. Gyn.*, 1884, S. 401.

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¹⁸ *Arch. f. Gyn.*, Bd. lii., Heft. 1, 1896.

§ II.—THE GRAPE-LIKE OR BOTRYOIDAL FORM.

Under this heading certain peculiar forms of sarcoma are included, that grow from the inferior part of the uterus into the vagina; where they present as pedunculated, grape-like masses—soft, easily detachable, gelatiniform in aspect—resembling hydatid moles. With their structure various heterotopic tissues—such as striped muscle (*rhabdo-myosarcoma*), cartilage, bone, epithelial elements, &c.—are frequently intermixed; hence it may be inferred that they arise in connection with aberrant elements, sequestered from the matrix of adjacent tissues during early embryonic life. Growths of this kind are highly malignant; they progress rapidly, recur quickly after removal, and they are very apt to disseminate. The only treatment of any avail is total extirpation by vaginal hysterectomy, and this should be undertaken as early as possible.

The soft, grape-like masses that constitute the characteristic feature of the disease, have often been described as myxomatous; but, according to Pfannenstiel, these structures are really due to a kind of lymph-œdema of the sarcomatous tissue. Their presence enables the disease to be readily distinguished from “cauliflower excrescence.” The average duration of life in cases of this kind seldom exceeds two years.

In further illustration of the subject I append abstracts of some of the chief examples hitherto recorded.

(1) One of the earliest cases is Spiegelberg's.¹⁹ In a maid, aged 17, he found a papillated growth, projecting from the anterior lip of the “os,” whose surface was studded with transparent-looking cysts, which easily ruptured when handled, exuding a sticky fluid. Recurrence ensued six months after its ablation, and the vagina became filled with a large racemose mass. For this, total extirpation of the diseased uterus by Freund's method was done; but the patient died soon afterwards, with intra-abdominal recurrence. Histological examination revealed an œdematous sarcomatous structure, composed

¹⁹ *Arch. f. Gyn.*, Bd. xiv., S. 178; Bd. xv., S. 436; and Bd. xvi., S. 124.

of large round and spindle cells. The disease is designated by the author "*Sarcoma colli uteri hydropicum papillare*."

(2) Winckel²⁰ has reported another example of a similar disease ("*Adeno-myxosarcoma cervicis*") in a patient aged 40. The tumour grew from the anterior lip of the "*os*," and its removal was followed by rapid recurrence. In this instance glandular structures were present in the sarcomatous matrix.

(3) Munde's²¹ patient was a weak, anæmic, unmarried woman, aged 19, who had suffered from leucorrhœa and amenorrhœa for two years. On examination, the vulvar orifice was found to be filled by a slimy racemose tumour, which was connected with the roof of the vagina. During the requisite manipulation handfuls of slimy grape-like structures came away. The tumour was finally removed *per vaginam* with a wire *écraseur*. Its central part consisted of a firm, fibrous structure. It grew from the portio, and the cervical canal passed through its centre. The uterus was small and mobile. The whole tumour was about 5 inches long by 3 broad. Recurrence soon set in, and six weeks after this operation the disease had again attained half its former size. Further operation was declined. Microscopically examined, the tumour consisted of a number of cysts embedded in a sarcomatous matrix, with here and there glandular structures lined by columnar epithelium. It is described by the author as "A rare case of adeno-myxosarcoma of the cervix uteri."

(4) In Pernice's²² case the tumour—which grew from the portio vaginalis—contained a large number of elongated, transversely striated, nucleated cells, resembling embryonic muscle cells. In its base were some gland-like structures, lined by columnar epithelium. Small nodules of hyaline cartilage were also found here and there. The firmer parts of the neoplasm consisted of fibro-spindle-celled tissue, while in its softer parts round and stellate-celled elements were met with. The tumour presented as a purplish, grape-like mass, bigger than a man's fist (10 cm. in diameter), which completely filled the vagina and projected from the vulva. The constituent berries contained a viscid, jelly-like fluid. The *canalis cervicalis* could be traced through the entire length of the tumour. The patient, whose age is not stated, had been subject to a vaginal hæmorrhagic discharge for six months. The disease was removed by amputating the cervix with a bistoury well above the tumour. Two months later the patient was seen again with a recurrent growth,

²⁰ *Lehrb. d. Frauenkr.*, 1886, S. 432.

²¹ *American Journal of Obstetrics*, vol. xxii, 1889, pp. 126, 282 and 957.

²² *Arch. f. path. Anat.*, Bd. cxiii., 1888, S. 46.

the size of a goose's egg. This was removed with the galvanic *écraseur*. Nine months later, when she again came under observation, there was further recurrence *in situ*; and a large intra-abdominal tumour, connected with the uterus, reached to the umbilicus. Laparotomy was performed, but the tumour, which was evidently malignant, could not be removed. A month later the patient died of pneumonia. The recurrent growths consisted of spindle-celled tissue, in which none of the heterotopic elements found in the primary neoplasm were present. By the author the disease is designated "*Myo-sarcoma strio-cellulaire*."

(5) In a single woman of 21, Rein²³ found a soft, lobulated tumour—like a "hydatid mole"—projecting from the portio. It was removed entire, but soon afterwards it recurred, disseminated, and caused death. On section after removal, areas of soft substance, like Wharton's jelly, were seen embedded in fibroid stroma. In these myxomatous areas nodules of hyaline cartilage were found, and here and there small cysts lined with cylindrical epithelium. The disease is named by the author "*Myxoma euehondromatodes arborescens*."

(6) A somewhat similar case is Thiede's,²⁴ in which islets of hyaline cartilage were found in a stroma rich in dilated blood vessels. The disease recurred rapidly after ablation, and caused death. The patient was 40 years old, and the tumour had a lobulated, spongy aspect. It is described by the author as "*Fibroma papillare cartilagineum*."

(7) Pfannenstiel's²⁵ patient was a multipara, aged 53, who, five years after the climacteric, became subject to vaginal discharge and pains in the sacral region. A polypoid tumour—which was taken to be an ordinary mucous polypus—was removed from the anterior lip of the os uteri. Eleven months later it was found to have recurred as a large grape-like outgrowth which filled the vagina. The mass was then cut away, the stump being curetted. Six months later a recurrent growth, nearly as large as before, was again found. Although the patient was weak and cachectic, the whole uterus was successfully extirpated. Recurrence was detected five months later in the vaginal vault. This was excised and the wound was cauterised, but the disease soon returned again. When last seen sixteen months after hysterectomy, she was still alive, although in a weak and emaciated condition; and the vagina was extensively infiltrated. The author signalises the disease as "*Das traubige Sarcom*." The sarcomatous matrix consisted of round- and spindle-celled structure, in which nodules of hyaline cartilage were

²³ *Arch. f. Gyn.*, Bd. xv., S. 187, 1880.

²⁴ *Zeitscher. f. Geb. u. Gyn.*, Bd. i., 1877, S. 460.

²⁵ *Arch. f. path. Anat.*, Bd. cxxvii., Heft. 2, 1892.

embedded; and in the matrix were softened lymph-œdematous areas.

(8) Ozenne²⁶ and Gaymann²⁷ have reported similar cases. Ozenne's patient was a multipara, aged 48. Leucorrhœal discharge had been noticed for the last year. On examination a polypoid tumour, the size of a man's thumb, was found projecting from the portio. It was at first taken for a mucous polypus; but its reddish colour, lobulated aspect, and the vesicular bodies protruding from it, enabled the diagnosis to be made. As there were signs of ill-defined deposit in the right fornix, hysterectomy was considered to be contra-indicated. The tumour was therefore removed with the curette, after which it soon recurred.

§ III.—SARCOMA OF THE MUCOSA.

This is probably the commonest form of uterine sarcoma. The disease originates from the connective tissue elements of the mucosa; and since glandular elements are rarely found in such growths, we may conclude that the initial morbid focus is seldom situated in the immediate vicinity of these structures. Some observations by Keller²⁸ and Kahlden²⁹ corroborate this view; for they found sarcomatous growths, that had originated from the deep part of the mucosa, completely covered by the more superficial part of this membrane with its glands. In certain cases it seems probable that mucosal sarcomata arise from the walls of the blood vessels and lymphatics, or of their adventitia. The disease usually assumes the form of a diffuse infiltration of the mucosa, with the production of numerous softish, rounded nodules or polypoid bosses. In a remarkable case reported by A. R. Simpson,³⁰ the infiltration spread from the uterus along the mucosa of the Fallopian tubes, until it projected from their fimbriated extremities. In the corpus uteri, growths of this kind not unfrequently attain large size, when they are

²⁶ *Rev. Obstet. et Gyn.*, June, 1894.

²⁷ *Thèse de Paris*, 1893. "Du sarcome kystique en grappe du col utérin."

²⁸ *Zeitschr. f. Geb. u. Gyn.*, Bd. xx., 1890, S. 116.

²⁹ *Ziegler's Beiträge z. path. Anat., &c.*, Bd. xiv., 1893.

³⁰ *Contrib. to Obstetrics and Gynæcology*, 1880, p. 240.

apt to cause thinning and weakening of the uterine wall, with a patulous condition of the *os* that favours inversion, which certainly is oftener met with in this disease (4 in 48 cases) than in cancer. Exceptionally muscosal sarcomata involve only a circumscribed area, when they tend to become polypoid. Histologically, these neoplasms usually consist mainly of small round and spindle cells, held together by a scanty fibrous matrix—rich in blood vessels—which is often œdematous, and occasionally the disease assumes a myxomatous form. Giant cells are sometimes found. The cervix may be affected as well as the corpus, and in both situations the disease is apt to recur and to disseminate. Subjoined are some typical instances of mucosal sarcoma as it affects the corpus.

(1) In a case under my own observation, the patient was a nulliparous single woman, aged 26, whose previous health had been good. The catamenia appeared at 14, and she had since been regular—although subject to dysmenorrhœa—until this illness began. Its first symptoms date from nearly two years ago, when she became subject to leucorrhœal discharge. A few months later a severe “flooding” supervened, and she subsequently had several such attacks, with sanious discharge in the intervals. Enlargement of the lower part of the abdomen was first noticed soon after the onset of the flooding. During the last few months she has had much pain; and œdema of the right leg and ankle set in a few weeks ago. There was no family history of malignant disease. On examination she was found to have a large intra-abdominal tumour, which extended from the pelvis to the umbilicus. The tumour extended laterally to each iliac region; and it appeared to be fixed to its pelvic attachment. It felt smooth, rather firm and circumscribed, and was dull on percussion. Nothing was heard on auscultation. Vaginal examination revealed a soft sloughing mass just within the *os uteri*; the uterus was greatly enlarged and was continuous with the intra-abdominal tumour; there was profuse fœtid vaginal discharge; and the examination caused free hæmorrhage. Some time later laparotomy was performed, the incision extending from the umbilicus to the pubes. The tumour proved to be the enormously distended uterus. The only adhesions were to the bladder and the vermiform appendix. These having been separated, the uterus was raised up out of the pelvis; the broad ligaments were divided; and Tait’s clamp was applied as low down as possible. The uterus and its appendages

were then cut away. On examination it was found that the stump of the cervix was extensively infiltrated by the disease. It was therefore freely seared with the actual cautery. The pedicle, with the clamp on, was fixed in the lower part of the wound, which was closed with superficial and deep sutures.

The parts removed comprised the whole of the body of uterus and part of the cervix, both tubes and ovaries. The inner surface of the uterus was found to be infiltrated with a soft, whitish, new growth, in places gelatiniform, whence polypoidal outgrowths projected into the uterine cavity; but nowhere had the disease penetrated the uterine wall. On *microscopical examination* the diseased structure was found to be small spindle-celled fibro-sarcoma.

Shortly after the operation free hæmorrhage from the pedicle supervened, which was with difficulty arrested after the use of the actual cautery, by the application of powdered per-sulphate of iron. The patient made a slow but complete recovery from the operation; but fresh growth from the pedicle soon set in. This was destroyed several times with Fell's paste, but it constantly recurred. Five months after the operation she had extensive recurrence in this situation. When last seen, a year later, a large, raw, fungoid outgrowth of recurrent disease occupied the hypogastric region. Half a year later she was reported to be still alive, with the disease progressing.

(2) In a case published by Coleman,³¹ the patient was 67 years old. She was the mother of seven children, and the menopause was not established till 55. One and a half years ago she became subject to a sanious vaginal discharge, for which she had been twice curetted, without any benefit. As there were signs of an intra-uterine growth, vaginal hysterectomy was performed. She soon recovered from the operation, but died comatose three months afterwards, having first developed left hemiplegia. There was no necropsy; but before death the vaginal roof was found to be full of soft recurrent growth; and there was a large tumour in the right iliac region, and just below the umbilicus another tumour could be felt.

On examination of the uterus after removal, its cavity was found full of soft, succulent, pale pinkish, polypoid masses, which projected from the infiltrated mucosa. The uterus was greatly enlarged, the os patulous, the cervix, portio and vagina being normal. The tumour was composed almost exclusively of large, round and spindle cells, with here and there giant cells; and hardly any intervening fibrous stroma. The morbid tissue was pervaded by numerous large blood vessels. The whole

³¹ *American Journal of Obstetrics*, vol. xxviii., p. 811, 1893.

mucosa of the corpus was affected, but the musculature appeared to have escaped invasion. The tubes were unaffected, except in the vicinity of the uterine cornua, where the disease had invaded the mucosa to a small extent.

(3) In Vignard's³² case, the patient was an unmarried nullipara, aged 60, who had manifested symptoms of uterine disease for five years. On examination she was found to have a large intra-abdominal tumour, with signs of an intra-uterine growth. Laparotomy was performed, and the enlarged uterus, which weighed over nine pounds, was removed. It was found to be affected with diffuse sarcoma of the mucosa, the condition met with being similar to that just described in Coleman's case. The os externum was stenosed, and there was hæmatometra. When last heard of, three years after the operation, this patient was well, and free from any return of the disease.

Among the varieties of this kind of neoplasm lately recorded, mention may be made of cases by Kay³³ and Schmitt,³⁴ in which glandular elements were intermixed with the sarcomatous new formation; and of Wagner's³⁵ case, in which the cartilaginous structures of the primary growth were reproduced in the secondary deposits in the lungs.

Rheinstein,³⁶ Kahlden³⁷ and Terrillon³⁸ have described cases in which giant cells abounded; and Whitridge Williams³⁹ a remarkable instance of melano-sarcoma with metastases in the brain, the pigment being contained in the spindle-shaped and myeloid cells composing the neoplasm.

Examples of myxo-sarcoma have been met with by Lancéreaux⁴⁰ and J. Clarke;⁴¹ and the association of endometrial sarcoma with fibro-myoma of the adjacent

³² *Arch. prov. de Chir.*, T. iv., 1895, p. 12.

³³ *New York Medical Record*, No. 13, 1889, p. 346.

³⁴ *American J. Obstet.*, xvii., 1884, p. 11.

³⁵ *Die Gebärmutterkrebs*, Leipzig, 1854, S. 129.

³⁶ *Arch. f. path. Anat.*, cxxiv., 1891, S. 507.

³⁷ *Zeigler's Beiträge z. path. Anat.*, &c., xiv., 1893, S. 346.

³⁸ *Bull. de la Soc. de Chir.*, T. xvi., 1890, p. 746.

³⁹ *Zeitschr. f. Heilkunde*, Bd. xv., 1894, S. 172.

⁴⁰ *Traité d'Anat. Path.*, 1875, p. 333.

⁴¹ *Trans. Path. Soc.*, 1894.

musculature has been reported by Mundé,⁴² Whitridge Williams,⁴³ and others.

In such cases as the foregoing the cervical mucosa usually escapes, but many instances are on record in which the disease had originated in this situation.

(1) In a case by Kleinschmidt,⁴⁴ a soft, lobulated, friable tumour of this kind, the size of an orange, grew from the cervix. It was excised, and the patient remained well for a year. During this time she became pregnant, and was delivered naturally of a living child at term. Shortly afterwards she was found to have recurrence, and there was a deposit in the left parametrium. The tumour was again cut away, but there was further recurrence two months later. The primary tumour proved to be a spindle-celled angio-sarcoma, and it contained several nodules of cartilage.

(2) Similar heterotopic elements were found in a round and spindle-celled sarcoma of the cervical mucosa in a patient aged 50, as described by Geissler.⁴⁵ The great relative frequency with which cartilage is found in sarcomata of the cervix is a remarkable feature.

(3) In Hunter's⁴⁶ case the patient's age was 37, and she had borne one child. On examination a soft, lobulated, bleeding mass was found springing from the cervix uteri; the requisite manipulation caused much hæmorrhage. The growth was removed by supra-vaginal amputation. Histologically it was a spindle-celled sarcoma.

(4) Rosthorn's⁴⁷ patient was 43 years old. The tumour contained round, spindle and myeloid cells. It recurred five times after operation, and eventually disseminated in the right ribs.

(5) In a patient⁴⁸ aged 34, who died with a soft, ulcerating, angio-sarcomatous growth of the cervix, numerous secondary deposits were found in the skin and subcutaneous tissue of the chest—including both breasts—neck and abdomen. Both ovaries and Fallopian tubes were similarly invaded, as also were the mesenteric, retro-peritoneal and mediastinal glands, both kidneys,

⁴² *Am. J. Obstet.*, vol. xxix., 1894, p. 604.

⁴³ *Ibid.*, p. 753.

⁴⁴ *Arch. f. Gyn.*, Bd. xxxix., 1891, S. 1.

⁴⁵ *Inaug. Diss.*, Breslau, 1891. "Ueber Sarcoma Uteri."

⁴⁶ *American J. Obstet.*, xvii., 1884, p. 522.

⁴⁷ *Wien. klin. Woch.*, No. 38, 1889.

⁴⁸ *Middlx. Hosp. Path. Rep.*, 1894, p. 311.

both pleuræ, the peritoneum and the peri-pancreatic tissues. The common bile duct was obstructed by a growth in the portal fissure of the liver. The pericardium, both pleuræ and the heart were also invaded, but the lungs, liver and spleen had escaped. No operation had been done for the uterine disease.

In cases by Johnston⁴⁹ and Hackeling,⁵⁰ glandular elements were intermixed with the sarcomatous disease; and Seeger,⁵¹ Johnston,⁴⁹ Taylor⁵² and Kobaer⁵³ have reported instances of melanotic growths of this kind. In Leopold's⁵⁴ case fibrous tissue predominated; and in Mundé's⁵⁵ the tumour consisted chiefly of myxo-fibromatous structure. An instance of "endothelioma lymphaticum," that sprang from the lymphatics of the mucosa of the portio, has been reported by Amann.⁵⁶

§ IV.—SARCOMA OF THE PARENCHYMA.

In this situation the disease usually assumes a decidedly circumscribed form, but instances of diffuse sarcomatosis of the parenchyma have occasionally been observed. The circumscribed variety in its general features much resembles fibro-myoma, except that a distinct capsule is seldom noticeable. Growths of this kind often assume a polypoid form. Telangiectasic, lymphangiectasic and cystic changes are not uncommon. The following case by Aslanian is an example of the telangiectasic variety :⁵⁷—

A woman, aged 40, with an intra-abdominal tumour, much larger than the pregnant uterus at term. It gave the impression of a large ovarian cyst, and seemed to fluctuate. No metrorrhagia

⁴⁹ *Maryland Medical Journal*, vol. xx., 1889, p. 428.

⁵⁰ *Inaug. Diss.*, Gött., 1873. "Das Fibro-sarcoma canalis cervicalis uteri."

⁵¹ *Ueber Sarcoma Uteri*, I. D., Berlin, 1891.

⁵² *New York Medical Journal*, July 6, 1889.

⁵³ *Berlin Klin. Woch.*, No. 7, 1881.

⁵⁴ *Arch. f. Gyn.*, Bd. vi., 1874, S. 493.

⁵⁵ *American J. Obstet.*, 1883, p. 63.

⁵⁶ *Ueber Neubildungen des Cervix*, München, 1892.

⁵⁷ *Arch. de Toc. et de Gyn.*, Feb., 1895.

had occurred. Abdominal section revealed an enormous soft tumour, attached by a broad pedicle to the left side of the uterus. There were several small fibro-myomata in other parts of the organ. The tumour weighed twenty-four pounds after removal. It was of a spongy, soft texture, full of large serous plexuses and lacunæ. The stroma was sarcomatous. After section several pints of blood oozed from its cut surface, although there were no distinct cystic cavities in it.

In a case reported by Webster,⁵⁸ the disease assumed the form of a large, unilocular blood cyst of the uterine wall. It was an angio-sarcoma. The patient was a multipara, aged 53.

As an example of cystic sarcoma, consequent on oedematous changes, Fenger's case⁵⁹ may be cited.

The patient, aged 35, presented with a large, fluctuating, intra-abdominal tumour, which was taken for an ovarian cyst. On opening the abdomen it proved to be a smooth, cystic, sub-peritoneal, fibro-cystic myo-sarcoma connected with the fundus uteri, with which were also connected two small fibro-myomata. On section after removal, its general aspect was that of a fibro-myoma, with areas of softish sarcomatous structure, and numerous pseudo-cystic cavities. The tumour was enucleated; but the patient died in the third week after the operation, gangrenous suppuration having taken place at the seat of implantation.

Many pathologists maintain that sarcomata of the parenchyma always arise from fibro-myomata, and this view has been sanctioned by such high authorities as Virchow, Rokitansky and Schroeder. I have elsewhere⁶⁰ referred to cases of this kind, and the reality of this mode of origin may, I think, be taken for granted.

Recent observations have, however, shown that sarcomata of the parenchyma may also arise from the constituent elements of the part, especially from those connected with its blood vessels and lymphatics, as in cases studied by Kleinschmidt and Kahlden.

⁵⁸ *American J. Med. Science*, March, 1895.

⁵⁹ *American Obstet. J.*, vol. xxi., 1888, p. 1200.

⁶⁰ *Annals of Surgery*, September, 1896.

In the structure of these sarcomata round and spindle-celled forms predominate, but myeloid elements have often been noticed. Fibrous tissue, organic muscle cells, blood vessels and lymphatics are also among their usual constituents. Myxomatous and œdematous modifications are fairly common.

From the fact that epithelial structures and even bits of cartilage have been found in neoplasms of this kind, it may be inferred that the disease sometimes arises from aberrant elements connected with these heterotopic anomalies (*vitium primæ formationis*).

To the class of neoplasms we are now considering the so-called "recurrent fibroid" tumours of the uterus evidently belong, of which examples were long ago described by Hutchinson⁶¹ and Callender;⁶² in the latter's case the disease not only recurred after removal, but it disseminated in the pericardium, lungs, and in the sixth cervical vertebra; in short, these tumours recur after removal, disseminate, and manifest all the well-known characteristics of malignancy.

The following analysis by Gusserow⁶³ shows the influence of age in the evolution of uterine sarcomata. Of 73 cases

4	began under the age of 20
5	began from 20 to 30
15	" " 30 to 40
28	" " 40 to 50
18	" " 50 to 60
3	" above 60

An unusually large proportion of these patients are relatively or absolutely sterile. Of 74 cases tabulated by Gusserow 25 were absolutely sterile (4 being virgins); and 35 parous women had between them only 51 children, or 1.46 each.

The symptoms of uterine sarcoma are similar to those of

⁶¹ *Trans. Path. Socy.*, vol. viii., 1857, p. 287.

⁶² *Ibid.*, vol. ix., 1858, p. 327.

⁶³ *Deutsche Chir.*, Lief. 57, 1885, S. 168.

uterine cancer, viz., hæmorrhage, discharge and pain. On physical examination the uterus is found to be increased in size, and to present indications of having a tumour connected with it. The racemose sarcomata can readily be distinguished from cancerous excrescences by noting the peculiar, soft, shiny, grape-like masses of the neoplasm, which are easily detachable. In most other cases the differential diagnosis can only be made by the microscopical examination of fragments of the disease removed with the curette.

The indications for treatment are precisely the same as for the corresponding forms of cancer; but, so far as can be judged from the imperfect data at present available, the results as to freedom from recurrence, &c., are less satisfactory than after similar operations for cancer.

§ V.—DECIDUOMA MALIGNUM.

Pathologists and clinicians have manifested great interest in this disease, ever since Säger⁶⁴ demonstrated the first example of it at the Leipzig Gynæcological Society in 1888. The pathological discussion has chiefly aimed at demonstrating the origin of the disease from the products of conception, and at determining whether its histogenetic elements are of maternal or foetal origin. The type of tissue to which such elements belong has also been much discussed, especially as to whether they are of epithelial (cancerous) or of connective tissue (sarcomatous) nature. For clinicians interest has centred in the demonstration of the connection of the disease with pregnancy, especially with abortions and "mole" pregnancies, and in the recognition of its highly malignant qualities.

More than ten years before the publication of Säger's case, Chiari⁶⁵ had called the attention of the profession to several instances of *post-partum* malignant disease, in all of

⁶⁴ *Arch. f. Gyn.*, Bd. xlv.

⁶⁵ *Wiener med. Jahrbücher*, 1877, S. 364.

which the neoplasm developed at the placental site; and these, no doubt, really were examples of "deciduoma malignum."

In Säger's case the patient was a healthy woman, aged 24, who had only been married for four months, when an incomplete abortion supervened in the eighth week, with subsequent hæmorrhages and fœtid discharge. When Säger first saw her she seemed to be suffering from septic symptoms, owing to the retention of putrid products of conception. The uterus was dilated and cleared out, but in spite of this the patient did not regain her usual health. The uterus increased in size, and a large tumour gradually formed in the right iliac region. She became weak and emaciated, cough and dyspnœa supervened, and she died thus seven months after the abortion. At the necropsy the uterus was as large as at the fourth month of pregnancy, and several large tumours, of a dark red colour, projected from its surface. There were secondary growths, of the same character as the primary tumour, in the lungs, diaphragm, iliac fossæ, and in the tenth right rib. Histologically the uterine tumour, as well as the secondary growths, consisted of areas of large cells just like decidual cells, those areas being separated from one another by hæmorrhagic tracts. Numerous open spaces and many giant cells were also seen. In some of the specimens the characteristic cells of the neoplasm were grouped around the blood vessels. Säger concluded that its constituent cells were of decidual origin, and that he had to do with a hitherto undescribed kind of neoplasm, which he proposed to name *deciduoma malignum*.

Pfeiffer, Müller and others soon reported similar cases.

In 1893, Säger⁶⁶ published a more elaborate account of his observations, together with a critical review of all the recorded cases, and in this work he abandoned the term "deciduoma malignum," substituting for it that of "sarcoma deciduo-cellulare," as indicating more clearly his view as to the origin of the disease.

In a case reported by Gottschalk,⁶⁷ the patient, aged 42—after an abortion at the second month—became subject to irregular flooding and discharge, for which the curette and tampon were repeatedly used without benefit. Five months

⁶⁶ *Arch. f. Gyn.*, Bd. xlv., S. 89.

⁶⁷ *Arch. f. Gyn.*, Bd. xlv.

after the abortion the cervix was therefore dilated, and a villous mass—that proved to be sarcomatous—was removed. A month later, as a last resort, the uterus and its appendages were removed *per vaginam*. The patient recovered from the operation, and for a time her general condition improved; but some months later signs of internal dissemination appeared; and she died thus, seven months after the operation, with metastases in the lungs, kidneys, &c. Microscopical examination showed that the primary tumour consisted of large, sarcoma-like cells, which Gottschalk believed originated in the chorionic villi; the secondary growths were of a similar structure. According to Gottschalk, therefore, the disease is a sarcoma of foetal rather than of maternal origin (*chorio-sarcoma*).

Marchand's⁶⁸ publication constitutes the next important landmark. His investigations are based upon the personal study of two specimens, and upon a review of all the cases previously reported. He concludes that the disease arises from the malignant development of epithelial elements of the chorionic villi, parasitic in the uterine mucosa; and therefore it is neither "deciduoma" nor sarcoma. He regards it as true cancer (*chorio-carcinoma*); but since in its biological properties—especially in that it almost invariably disseminates by the blood-vessels—the disease so closely resembles sarcoma, Marchand proposes to designate such growths provisionally as "serotinal tumours."

Of 15 cases tabulated by Marchand, in no less than 12 there was clear history of previous "mole" pregnancy. It is evident, therefore, that molar pregnancy specially predisposes those thus affected to the subsequent development of this form of malignant disease. Neumann⁶⁹ and others maintain that both maternal and foetal elements enter into the formation of these neoplasms. According to Reinicke⁷⁰ the large-celled elements found in them are neither decidual nor chorionic products, but derivatives of the myometrium.

⁶⁸ *Monatschr. f. Geb. u. Gyn.*, Bd. 1., Heft. 5, 1895.

⁶⁹ *Wein. klin. Woch.*, July 2, 1896.

⁷⁰ *Arch. f. Gyn.*, Bd. viii., Heft. i, 1897.

From what has been stated, it will be gathered that "deciduoma malignum" is a special variety of malignant disease, coincident with pregnancy, that tends to run a rapidly fatal course. The first symptoms appear soon after parturition—usually after abortion or the passage of a "hydatidiform mole." The average age of those affected is about 33 years; 9 out of 16 were under 30 at the date of onset.

Irregular metrorrhagia—often profuse—soon after parturition, together with foetid discharge, are usually the earliest symptoms. The hæmorrhage may be unusually difficult to arrest; and several patients have died from this cause. These symptoms are at first generally ascribed to retention of products of conception. In Gottschalk's case, the disease was diagnosed by the microscopical examination of tumour substance, scraped from the uterine cavity after dilatation of the cervix. The progress of the disease is marked by rapid emaciation, loss of strength, and cachexia. Anorexia, nausea and vomiting are often prominent symptoms.

Variable pain and a certain amount of pyrexia may be experienced. On vaginal examination the uterus is often found to be unduly bulky, and by bimanual palpation irregular bosses can sometimes be felt on its surface. Sanious discharge may be seen issuing from the patulous os, the cervix and portio being in other respects normal. This will suggest the propriety of intra-uterine examination; when the disease may be detected in the products removed, or its presence may be suspected if with the examining finger a softened area can be felt in the uterine wall. These growths generally present as soft, shaggy outgrowths. The disease has a special tendency to invade the blood-vessels, which are very numerous; hence metastases form early and are widely diffused; the lungs and pleuræ are their commonest seats, but they are found also in the liver, kidneys, intestines, stomach, ovaries, spleen, and in the bones (ribs, femur, &c). Deposits often appear in the vagina and sometimes in the vulva.

The only operative treatment of any avail is total extirpation of the uterus *per vaginam*, together with the ovaries and tubes, as soon as the diagnosis has been made. Before undertaking these operations the lungs should be carefully examined, so as to preclude the risk of operating in the presence of pulmonary metastases.

Of 14 cases,⁷¹ tabulated by me, in which this operation was done, 2 died directly from its effects; of the other 12, 5 died with recurrence within the first year; and of the remaining 7, 6 were well and free from recurrence when last heard of 10 months, 9 months, 7 months (2 cases), 5½ months, and 3 months after the operation respectively; nothing is said as to the after-condition of the other case.

Preston, May, 1897.

⁷¹ By Neumann, Laver and Wilkinson, Gottschalk, Fraenkel, Marchand, Lönnberg and Mannheimer, Menge, Nové-Josseraud, Löhlein, Tanner, Oppenheim, Schauta, Launen, and Apfelstedt and Aschoff.

TRANSLATION—(ABSTRACT).

“BEITRAGE ZUR LEHRE VON DER OVULATION, MENSTRUATION UND CONCEPTION. Von Dr. Paul Strassman. *Archiv f. Gynäk*, B. 52, H. 1, 1896.

(Continued from p. 585, vol. xii.)

The Anatomical Process of Ovulation.—This must be divided into two parts:—(1) The ripening of the ovum; (2) the discharge of the ovum (bursting of the follicle).

The ripening of the ovum, as also of the Graafian follicle, goes on continually. Not seldom we find follicles ready to burst before puberty—in the newly-born quite as frequently as later. This is analogous to the activity found in the breast glands. Before the onset of menstruation, however, “corpora lutea” are wanting, and the proof of a freshly-burst follicle has not yet been established. The ovary is in the same condition of rest as is the uterus.

From the beginning of puberty the large, ready-to-burst, and already burst follicles, with typical layers, the cicatrices of burst follicles and the typical corpora lutea first appear; the few exceptions only prove the rule. Ovulation can under certain circumstances take place before menstruation; the occasional occurrence of pregnancy in a girl who has never menstruated proves this.

In ovaries removed by laparotomy we observe, without exception, many follicles of different size, variously short of bursting. The spontaneously burst ovulation- or menstruation-follicle is a bigger structure, as its governing position implies. We remember to have seen many follicles

of 15 mm. in diameter. Leopold gives 2·6 cm. long and 1·7 cm. high as the measurements of the ripe follicle. According to Puech and Raciborski, the ovary which bears the ripe follicle undergoes an increase of about 15 mm. in size. The follicle bursts by a general extension of growth. If it is not already emptied, it is impossible to say how soon or in what line the follicle will burst (Leopold's analogy is a soap bubble). If it bursts on gently raising the ovary it is easily evident that it would soon have spontaneously ruptured, but an exact estimation of the ripeness of a follicle is impossible without microscopical examination.

The development of the vessels, the liberation at the point of the follicle of a spot—"the stigma"—the development of the theca interna, and, lastly, of the egg itself, bear witness to the ripeness of the follicle and the fact that the ovum by pressure must discharge itself from the follicle. In the ripe ovum the germ-spot is karyokinetically diminished, the germ-vesicle indistinct, and the ovum-protoplasm changed into deutoplasm (Hertwig).

Not all follicles become "ripe." There are always many placed close together, but in a definite space; only single ones or a few come to full development and empty their ova—the rest go back. In every sound ovary such atretic follicles are present (Nagel). The epithelium of the ovum degenerates, the ovum breaks down, wander-cells crowd in and carry away the products of degeneration (Hoelzl). The zona pellucida folds itself together (Waldeyer), and remains visible for a long time in the centre of the declining follicle. This may be regarded to some extent as an intra-follicular abortion. Hensen explicitly remarks that the abundant decline of the ova of beasts is specially frequent, and not limited to this class.

Sexual impulse and cohabitation can only be regarded as having a possible or questionable influence on ovulation. The ripening of the ovum and menstruation are always completely independent of sexual congress (Bischoff,

Negrier, Raciborsky, Pouchet); but it is reasonable to suppose that rupture of a follicle may be accelerated by the "trauma" of cohabitation. "The dehiscence of the follicles may be precipitated under the influence of connection alone." Hensen and Slavianski hold this possibility as true after observations on rabbits.

During the ripening of the ovum there is a continuous function of the ovary; but one follicle is for a time foremost in development, and this proceeds as far as the formation of the corpus luteum—only one (or two—"twins") are freshly ruptured, and each takes some weeks for its disappearance.

Periodicity of the Discharge of the Ova in Women.—We are indebted to Bischoff for the law that the rupture of the follicle (the full ripening of the ovum and its exit from the ovary) takes place periodically. Each menstruation is the expression of an ovulation. The "rut" of animals and the menstruation of women are identical functions.

Since the uterus is dependent on the ovaries for development and growth, it is only a step to conclude that heightened activity of the ovary calls forth a heightened life-expression of the uterus; and as this is visibly periodical, the activity of the ovaries is periodical likewise.

The acceptance of a periodical ovulation would serve to clear up the periodicity of menstruation. The question of the periodical activity of the sexual organs would thereby only be pushed back a step, and as a consequence of this conclusion there would only remain for us to perceive a general rhythmic life-expression, as in respiration and pulse, &c.

One good observation on a sound organism is worth more than a dozen on those that are diseased. But only an accident can afford us the opportunity of examination of sound genital organs in a sound organism. Especially valuable are those cases in which young females who have only menstruated a few times come to the *post-mortem* room.

Here the number of the cicatrices or corpora lutea should correspond with the number of the menstruations.

Bischoff has been already referred to. Girdwood reports that in a girl 18 years old, who died of phthisis and had menstruated six times, he found five clear cicatrices and one doubtful one. Two other cases of Girdwood's (thirty-six menstruations with thirty-four cicatrices, and twenty-four menstruations with twenty-two cicatrices), tell more for the connection between ovulation and menstruation than against it. With the larger number the counting becomes of course less certain.

Operative gynæcology brought new light. The extraordinarily careful investigations and demonstrations of Leopold and his school have very materially widened our knowledge on the growth and decadence of the follicle. But here also the genitalia examined were always more or less diseased. In myoma, for example, the ovaries always showed macroscopic or microscopic changes which very probably had some influence on ovulation. Out of the older literature the following accounts of (*post-mortem*) sections stand out for our guidance :—

Name.	Sections at Menstrual Period.	Burst Follicle or Ripe Follicle.	Absence of Burst Follicles.
Bischoff	3	3	—
Kölliker	8-10	6-8	2
Reichert	23	22	—
(One case with burst follicle but without bleeding.)			
Williams	16 (One case	12 doubtful.)	3

From operation reports the following are collected :—

Name.	Sections at Menstrual Period.	Burst Follicle or Ripe Follicle.	Absence of Burst Follicles.
Leopold and Mironoff	42	30	12
L. Tait	49	9	—
Arnold (collected cases)	54	39	—

So far as these go we gather that in the majority of cases a freshly burst follicle is found at the time of menstruation.

In a noteworthy minority of the operation reports, neither in a ripe nor ruptured state is the follicle seen. One might hold with reason that in these cases one has to do with diseased patients. Clinical symptoms, too, are not wanting which point to an abnormal course of ovulation. Fehling, for example, explained inter-menstrual pain—a well-known pathological occurrence—as a normal ovulation between two menstrual periods. Especially after inflammation within the appendages or in their neighbourhood, with formation of retention tumours and adhesions about the ovary, is ovulation directly disturbed. This may account for the remarkable figures of Mr. Tait. In double pyosalpinx, for example, one sees the ovaries so displaced, so closed round on both sides, and incarcerated in the pouch of Douglas, that a follicle could scarcely develop to the size of “ripeness,” and much less could it then burst.

In peri-oöphoritis, too, we cannot wait for the stretching of the Graafian follicle until it is fully ripe, or the thinning of the wall until it bursts. In fact, in such an ovary no fresh cicatrices are found, but an inflamed and thickened surface under which numerous old follicles appear. The pains which women suffer during menstruation, with peri-oöphoritis and pelvic peritonitis, with or without diseases of the tubes, may be put down with the highest probability to hindered ovulation which leads to increased tension in the ovary without any compensation. Already the separation of the ovaries, either by massage or operation, has led to improvement of the pain under these conditions.

If the extirpated appendages, however, appear to be completely sound, it does not necessarily follow that the uterus and whole organism are sound also, and this may possibly influence the character of the menstruation, indeed, if they had been sound, the appendages would not have been removed. Such cases must accordingly be used with extremest caution (if at all), in forming any conclusion as

to the coincidence or not of ovulation and menstruation. Finally, we must not lose sight of the fact that all women who have undergone operation have been decidedly influenced mentally by the operation. In this way, an influence on the menstruation type, a disturbance of the nervous mechanism of the play which takes place between connected organs and functions, is highly probable. The follicle concerned may have been broken, if not (easily) at the time of operation, then at the previous examination. This is the more probable as the appendages are drawn forward and exhaustively examined under anæsthesia so that the protecting tension of the abdominal wall is entirely wanting.

On the other hand, these objections allow some to hold ovulation and menstruation as two events quite independent (Slavjansky), and to reckon menstruation as a self-standing physiological phenomenon. We must therefore mark the fact that under pathological conditions many women menstruate without the fresh bursting of any follicle. We shall seek to clear this up further. For the explanation of those cases where menstruation takes place without ovulation, Leopold and Mironoff have advanced the hypothesis that ovulation and the formation of a typical "corpus luteum" may be replaced by hæmorrhage into an unripe and unburst follicle. In their studies they differentiate between *typical corpora lutea*, which burst during menstruation and become tensely filled with blood, and *atypical corpora* which arise from the unburst follicles whose walls are fallen together and only contain a little blood clot. From our own experience the discovery of an elastic blood mass in a corpus luteum is by no means regular. This, too, is the view of Olshausen. After what we know of the retrograde metamorphosis of the follicle, it would rather appear that both these kinds of corpora are more or less pathological, due to their removal from cases operated on at Leopold's clinic.

In the microscopical account of the "atypical corpora"

evidence of the retention of the ovule is wanting, although there should be some indication of this if the follicle is ripe but not broken. It is especially remarkable that in the careful work of Hoelzl no similar conditions are described. Leopold and Mironoff make use of the result of their investigations in order to re-establish the thesis of Pflüger *that the ruling movement of menstruation is not the periodical ripening but the steady growth of the follicles or the predominating growth of one follicle*. Pflüger's view goes further—"that the growth of the ovary produces a permanent irritation. These stimuli collect themselves (Feoktistow compares them to cohabitation and ejaculation), and finally the reflex consequence follows, viz., a powerful blood-congestion of the genitalia, while the vessels of the face and hands appear to be contracted. From this follows, first, the menstrual changes in the uterus, and secondly, the bursting of the follicle, which opens either during or after the hyperæmia."

The periodicity is explained by Pflüger by a theory of dynamic equilibrium of all organs, from which it follows that the ovaries carry a definite number of stimuli to the central nervous system every day. Menstruation appears without a corpus luteum when no large follicle happens to be present. (We have thoroughly quoted these opinions because Pflüger's views are often referred to as if he did not speak of menstruation without ovulation.) There always remains one exception: for the recurring menstruation of a healthy woman permits of recognition, but the ovulation does not. In same kind of relation, however, the phase of the uterine mucous membrane to the expected conception still remains, and it is not certain that when these changes take place without a ripe ovum presenting itself for fructification, the condition can be regarded as normal. Generally we hold therefore to the view that the shedding of the ovum is periodic like the menstruation.

The part played by the Tubes in Menstruation.—The Fallopian tubes do not suffer such marked changes during

menstruation as the uterus. They take part somewhat in the hyperæmia and are perhaps in lively peristalsis. The accounts hitherto given of tubal menstruation (Landau and Rheinsteint) in atresia, (Hofmeyer) in a stitched-up tube, (Chapin-Minaret) in inverted uterus, are (on account of these marked pathological changes) not to be considered as reliable evidence. Against any regular tubal menstruation is the fact that after 100 and 1,000 cases where occluded tubes for pyo- or hydro-salpinx were extirpated no blood collections were found, while these inflammatory conditions had rather increased the menstruation from the uterine mucous membrane. Wendeler observed the changes in the tubes of a young girl who died of apoplexy at the end of a menstruation. He found in them similar but not such marked appearances as those in the uterus. Another case of Wendeler's in which, after total extirpation of the uterus, a tubal fistula remained in the vagina, showed that no regular bleeding took place from the tube. The fact that every four weeks with typical molimina a few drops of mucus were secreted from the vagina, can be traced to ovulation according to my ideas, if the liquor folliculi with the ovum were carried out through the tube. As a matter of fact there came for the first time the accident of a pregnancy in this vaginal tube, which was cleared out vaginally by Wendeler. In the above-described case a marked blood collection was found only in the left ampulla, which possibly arose from the operation. The tubal mucous membrane was generally free from extravasation or blood remains. Fritsch has removed the appendages eleven times during menstruation and never found blood in the tubes.

Menstruation, no independent life-expression of the uterus and not the cause of ovulation.—Were menstruation an independent phenomenon of the uterus, and did the follicle burst only under the influence of menstrual congestion, then pregnancy could not occur in amenorrhœic individuals; but this has been observed in children as already pointed out, it

may even exceptionally occur after the menopause, and we see it during lactation. These cases demonstrate the independence of the ripening and bursting of the follicle from the menstrual blood-flow. They form a very weighty piece of evidence against the inoculation theory of Pflüger, and of the highest moment for the comprehension of menstruation. As already remarked, a sudden filling of the follicle with fluid does not take place. The vessel development and ripening goes on very gradually.

Anatomically, as Reichart, Leukardt and Waldayer have specially pointed out, the opening of the follicle is independent of menstruation. Werth's case—one of four-weekly swelling of the ovaries in a patient with ovarian hernia and absence of the uterus—proves that a periodical increase of ovarian activity takes place or a periodical hyperæmia is (in some way) brought about.

Other observations on ovarian herniæ (cases collected by Englisch) show that the swelling takes place before the menstruation.

During menstruation the ovaries are at first swollen, but decrease in volume during the menstruation (Morel-Lavallée, Verdier, Barnes, Oldham). This is important to remark, since one may reasonably conclude that later, after menstruation, when the vascular congestion is gone, a bursting of a follicle is no longer probable. The ante-menstrual blood-pressure is higher than the inter-menstrual, the pressure suddenly falling off at this period. In the general hyperæmia which during menstruation extends itself over the pelvis and genitalia, the ovaries take their part; but this swelling is not necessary for the bursting of the follicle. According to Holst and J. Meyer the normal ovaries are swollen during menstruation, tensely elastic, and therefore easy to palpate.

A single case is narrated by Hyrtl in which the unimpregnated ovum was found, and thereafter the time of its shedding was unexpectedly established. On the fourth day of menstruation the minute ovum was in the interstitial

portion of the tube ; the follicle must necessarily have ruptured a long time previously.

Very instructive too is Case 4 of the work of Leopold respecting a young girl who lost her life by an explosion. Two days before the expected menstruation the follicle was already burst, while the thickened uterine mucous membrane had not yet begun to bleed.

Williams found in twelve cases that the follicle had burst before the onset of bleeding.

Reichert and His accept an interval of two days between separation of the ovum and menstruation. On this is founded the well-known Sigismund-Löwenhardt theory in which Simpson, Gusserow and others concur.

Under the heading of *Is ovulation the cause of menstruation ?* the author recapitulates some of the facts tending to prove the comparative importance of the ovaries in the organism. He refers (clinically) to the enlargement which may often be felt in one ovary before a menstrual period, and to the difference in size of the ovaries which may sometimes be observed in the first weeks of pregnancy, and then proceeds to describe eleven experiments on dogs, by which he seeks to establish a definite relation between swelling of the ovary and hyperæmia of the genitals. In his experiments (which are described in detail) the ovary was usually fixed in the wound, after abdominal section had been performed, and small injections were made into the ovary (so as to produce an artificial follicle) at chosen times ; the result, if any, of these injections being carefully observed and minutely described. For the details of these experiments, which are somewhat lengthy, the reader must be referred to the original paper. The author's conclusions and remarks are given in the following section.

Results and Criticism of the Experiments. — From the experiments which have been described, it follows that the

increase of intra-ovarian pressure in dogs, caused by the injection of fluids, produces changes in the endometrium. With these also are noticed appearances in the genitalia, which in many ways are similar to the phenomena of "rut," hyperæmia of the vagina and external genitals, erection of the clitoris, increased secretion of mucus and blood, and, at times, symptoms of excitement (Case 1).

It is scarcely necessary to mention that a true "rut" was not produced by the introduction of indifferent fluids, and, indeed, could not be produced any more than artificial ovula, or the fœtus itself could be manufactured. But certain direct anatomical changes always took place in the uterine mucous membrane, which we had reason to consider as of ovarian origin. In the cases microscopically examined the endometrium was thicker after the injection, the folds of the surface less marked, and the cavity of the uterus smaller. That the displacement of the ovaries or the abdominal section was not alone the cause of the descending changes in the genitalia is rendered evident by the control experiments. Neither macroscopically nor microscopically were any inflammatory or degenerative changes evident, and these were, therefore, not answerable for the result. The ovaries remained free from suppuration. In the abdomen only loose adhesions were found, such as follow after every laparotomy—the unavoidable mechanical shedding of the serous epithelium; there was no inflammatory membrane. The place of incision in the companion operation healed in the same way as the pedicle after an ovariectomy, and on the other side no trace was found of adhesions or inflammation. With the exception of experiment No. 6, where a piece had been cut out of the middle of a horn which was in a state of active "rut," no retention (hydro- or pyo-metra) or other disease appeared. The phenomena were not delayed by any direct irritation by escape of the injected material through the tubes and the uterus. Neither in the tubes nor in the glands of the uterus was the "very easily seen blue colour stuff" observed after

section or incision. No regular contractions of the uterus were observed during the injections. That the excision from the one horn (necessary for comparison) has no effect on the other is theoretically most probable. Both horns open together in common, yet they lie so far removed from one another, their vessels are so sharply defined, that their relation is scarcely different from that of the ureters to the bladder. A change in the one causes no change in the other. Finally, after excision, if no injection has been made, the changes on the other side are wanting. The facts that the changes were visible after some days, and that they were often first clearly noticed after two days, speak against the acceptance of any traumatic influence.

Now we have to consider the way in which these uterine changes take place.—By the sudden impact of a strange, clotted fluid numerous nerve fibres become affected, disturbed in their nutrition and mechanically irritated. Recent works on the nerve supply of the ovary make this a certainty (Herff, Riese, v. Gaurousky and Winterhalter). From the work of Röhrig we know that the irritation of the ovarian nerves by the electrical current produced increased blood pressure in addition to uterine contractions. The vasomotors were excited. The histological changes about the injection material, the phagocytosis which produced the artificial "foreign body follicle," produced a lasting irritation which led to vessel disturbance in the uterus along paths provided for this purpose. Probably no simple descending hyperæmia takes place, but excitations proceeding from the ovary—as in ovulation and rut—are collected together in nerves and ganglia, and journey thence toward changes in the uterine mucous membrane. This reflex disturbance can take its way through the lumbar cord, but perhaps may be conveyed directly through the Frankenhäuser ganglion, or through the sympathetic ovarian fibres and ganglia.

In this way we come back to Pflüger's hypothesis, that the pressure of the growing follicle on the sensible nerve endings of the ovary is the exciting cause of the reflex action

of the vaso-motor nerves of the genitals. Joulin says without hesitation—"The ripe ovum acts as a foreign body on the ovary. The nerve irritation arising therefrom acts reflexly on the muscular apparatus of the internal genitals." Robinson accepts the presence of automatic menstruation-serving ganglia, which lie on the sides and at the fundus of the uterus, and stand in connection with the sympathetic nerve mesh-work and exercise an exciting action. Winterhalter has lately described and pictured ganglia lying in the zona vasculosa, whose branches in manifold connections encircle the vessels.

Connected with Exner's remarks on the activity of ganglion cells (stimulations received, preserved, accumulated, and again given out after a certain height of stimulation has been reached), Winterhalter argues that this ganglion of the sympathetic, inserted between the follicle-layer and the vessels, directly transmits the out-going impulse from the ripening follicle to the vessel-nerves in reach of the genital apparatus, and then produces in this periodically a state of hyperæmia.

With Exner's view the incubation time will also be explained—the time between the date of injection and the visible and highest issue that follows in the uterus (two to three days). One has here still to reflect that the vascularization about the place of injection occasions a gradually increasing congestion and irritation of the nerve-apparatus in the ovary.

This incubation time should not cause any astonishment. *We meet with a similar symptom at the commencement of lactation.* As is well known, this is bound up with the delivery of the child and the emptying of the uterus. It does not matter whether this happens at the full term end of pregnancy or before.

(After miscarriages from the second to fourth months, we have ourselves observed indications of swelling of the breasts and increase of secretion, while in the second half of pregnancy this is a constant symptom. Also after the birth of

a dead child and the removal of an extra-uterine pregnancy similar breast symptoms are present.)

Lactation begins, on an average, on the third day (seldom on the second or fourth), and this somewhat suddenly, while the hesitation (or delay) is to be sought solely and alone in the three days before, immediately following delivery.

As an analogue to these symptoms in all animals, we might, perhaps, consider the occurrence of so-called pseudo-menstruation in women. As is well known, frequently after operative procedures, and especially after operations on the appendages, in a certain time a bleeding comes on of variously long duration quite independent of menstruation. It is very conceivable that the so-called pseudo-menstruation represents an equivalent for actual menstruation, and, therefore, may rather be regarded as an abortive menstruation.

It is evident that operation must have some action on the follicle apparatus. The account of J. Veit is worthy of notice—for he observed the onset of a pseudo-menstruation after a one-sided ovariectomy, though the ripened follicle belonged to the removed ovary.

Now several points may be considered for the explanation of pseudo-menstruation. In the above case it is very improbable that the uterine mucosa was rendered thick and bleeding from traumatic causes, especially as the case was one of simple ovariectomy. Then the pseudo-menstruation after the operation was not enough to make it remarkable. Another acceptance, however, is that after enucleation of large vascular tumours, such a marked overfilling of the vessels of the pedicle follows that the collateral vessels of the uterus may take part (Olshausen). The consequence of this congestion is the bleeding from the mucous membrane (similar to the bleeding in heart failure). To a certain extent also the weakening of the heart's action that follows important operations with long narcosis may take part in the hyperæmia of the abdomen and pelvic organs. After the removal of large tumours, too, the consequent reduction

of the intra-abdominal pressure may have a mechanical action in causing a rush of blood to the parts. Could we thoroughly observe under certain conditions, after removal of large tumours, the factors favourable to pseudo-menstruation, there would still remain in other cases—as for example, after simple castration—as the next causal condition, that through the touching and bruising of the ovary, through the cutting through and tying off of the ovarian nerves, the same chain of symptoms is set free as in physiological ovulation. Especially as we accept the fact that between the bursting of the follicle and uterine bleeding two days elapse, so the interval of two to three days that, according to my experience, intervenes between operation and pseudo-menstruation would be a support to our view, and we may perceive in pseudo-menstruation itself an occurrence directly similar to menstruation. If Veit's observation be regularly confirmed we should have, through removal of the ovary with a ripe follicle, a practical menstruation artificially and prematurely induced. Issmer expresses a similar view regarding seven cases of double-sided ovariectomy that took place at Winckel's clinic, that the hæmorrhagic discharge soon after the operation was the greater when the operation was further removed from the last menstruation. This bleeding also represented the last menstruation of these patients. When the time of operation occurred shortly after the menstruation (where also a renewed mucous membrane was present) no pseudo-menstrual bleeding occurred. The greater the hypertrophy of the mucous membrane, the nearer the time approached to the next menstruation, the greater was the amount of loss. What was for a long time suspected by clinicians and formed the groundwork of many hypotheses, has obtained a new support from our experiments on animals, viz., *that the ovary governs the uterine mucous membrane*. We can, therefore, with reason accept Leopold's simile that the uterine mucous membrane indicates previous changes in the ovary, just as the striking of the hour indicates the movement of the clock.

We may accept for the animal as certain, and for the healthy woman as extremely probable, that the mechanism is so arranged that the full ripening of a follicle or a certain periodical maximum of tension (in the ovary) shows itself in changes of the uterine mucous membrane.

Under pathological conditions the mechanism may so alter that the changes in the uterus give notice of another time than that of complete ripening or pressure-maximum. If we carry our simile further, this would be as if the clock struck the hour when the time stood only at "three-quarters." If the movement of the clock stands still the hour strikes no longer; if the ovary ceases its activity, no periodical changes take place in the uterine mucous membrane. The timepiece may go on when the striking apparatus no longer acts.

This indicates for us that the function of the ovaries may still be present without the changes in the endometrium, even when the uterus is absent. Never, however, will the hour strike when the wheels of the clock are not moving, and never can anyone through the striking apparatus set the clock in motion.

Similarly, the uterus cannot act if the ovaries act no longer, and just as little can anyone stimulate the ovarian activity through the uterus.

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REVIEWS.

REVUE DE GYNÆCOLOGIE ET DE CHIRURGIE ABDOMINALE.

(Paraissant tous les deux mois.) Sous la direction de
Professor S. POZZI (No. 1, Janvier-Fevrier).

This is the first issue of this important journal, and its appearance will be welcomed by abdominal and gynæcological surgeons generally. In its pages are discussed, not only those subjects of a more purely gynæcological character, but also all matters appertaining to abdominal surgery generally. For instance, in this first number there is a long and important review by Professor Pozzi, on resection and ignipuncture of the ovary, and an interesting note on a case of deciduoma malignum, by Messrs. Monod and Chabry, as well as an original article by Dr. Paul Segond on acute bed sore as a possible complication of vaginal hysterectomy. Professor Pozzi reviews the literature and published records, up to the present year, of the conservative surgery of the uterine adnexa, showing how much we are indebted to such surgeons as A. Martin, Polk, Zweifel, and others who adopted the suggestion of Schroeder to resect the ovary, and thus preserve as much of the sound tissues as possible, without removing the entire organ—a step the importance and value of which is most clearly evidenced in such a case as that in which Schroeder first practised it, where the adnexa of one side were removed, and a portion of the ovary of the other was preserved. The patient was delivered of a healthy child at full term.

Pozzi makes the following division of the conditions which may demand oöphorectomy : (1) Benign neoplasms,

such as cysts of the ovary, which are neither colloid nor papillary in character, with serous contents, or of the dermoid type. (2) Those neoplasms which have a doubtful prognosis, proliferating glandular cysts with multiple pockets with gelatinous or colloid contents. (3) Neoplasms probably of a malignant type, comprising all papillary tumours, and some non-papillary tumours, solid or myxomatous, which are rendered suspicious by an accompanying ascites and rapid development. (4) Chronic ovaritis. The author discusses the different reasons which would influence an operator in preserving a portion of sound ovary at one side when that of the other has been removed, or of both ovaries when the two are but partially affected. He does not hesitate to recommend resection in certain cases of proliferous cysts of doubtful character, where, as in the case of a young woman, fecundation may be possible, and when the cyst which has been removed has the usual characters of benignity, where there is neither vegetation nor colloid matter in it, and where the general health is not affected. He would pursue the same course in the case of dermoid cysts. In those cases in which a large multilocular and colloid cyst of a semi-solid nature (and in which recurrence or the liability to peritoneal metastasis is uncertain) has been removed at one side, and a smaller, more limited cystic mass of a similar nature is found at the other side, he counsels removal of this ovary also. The element of doubt in such a case is too strong to chance a conservative operation. In malign neoplasms under all circumstances he counsels removal of both organs. Discussing the consequences of chronic ovaritis with a view to resection, the author reviews the influence of tubal complications in determining operation. He regards almost complete integrity of the tube as the essential condition for any attempt to preserve the ovary.

The rarity of pregnancy occurring in cases in which the abdominal ostium of the tube is closed is not encouraging, and the danger of infection occurring from the operation of

salpingostomy has to be remembered. There are, however, cases of partial obliteration, owing to some agglutination of the fimbriæ or retraction of the infundibulum, in which the operation of salpingotomy, in contra-distinction to salpingostomy, is indicated. Here, by the assistance of a sound and stylet, or possibly of scissors, the agglutinated fimbriæ are separated before the canal is catheterised. Delbet reopened the ampulla by a longitudinal incision, and having washed the tube, and proved by catheterisation that there was no obliteration of the uterine ostium, sutured the mucous membrane of the tube to the peritoneum to secure the patency of the newly-formed orifice, and fixed this restored ampulla and its fimbriæ on the ovary. The patient became pregnant, and was delivered of a living child. In discussing the lesions of chronic ovaritis which are suitable for resection, Pozzi rejects those cases of advanced sclerosis, and thinks that the operation should be reserved for those mixed cases in which cystic degeneration of the Graafian follicles is more or less added to the condition of sclerosis. Such conditions include large follicular cysts of the yellow body and sclerocystic ovaritis. The various conservative steps are detailed, and their relative advantages discussed, especially resection of that portion of the ovary which contains the micro-cysts accumulated in the greatest number, and ignipuncture with the thermo-cautery. Both Martin and Matthæi do not practise the latter, but as we have recently shown, Martin either stabs the cyst with a bistoury, or resects the part and brings the lips of the incision together with catgut. For ignipuncture Pozzi employs the ordinary Paquelin's knife, opening by its means all the small cystic cavities and applying it for a few seconds to the inner surface of each so as to destroy its walls. In the same paper Pozzi describes his operation for salpingorrhaphy, or the fixing of the ampulla of the tube, having determined the patency of its calibre, on its resected ovary.

In chronic ovaritis, where there are small sub-tubular Wolfian cysts, he removes these by incising the peritoneum

between the tube and the cysts, and very near the latter, and by pressure he partially enucleates it, completing its ablation with the scissors. The bleeding surface he lightly cauterises with Paquelin, and closes the wound with a suture of catgut. Pozzi in this paper draws attention to the need for careful examination of the vermiform appendix when there is a pyo-salpinx of the right side to be dealt with. This attention to the appendix in many cases of salpingo-oöphorectomy at the right side is not perhaps sufficiently remembered. Should the appendix be diseased, or contain a concretion, or be involved by adhesions to the adnexa, it would be better to detach and remove it after ligation, touching the surface with the thermo-cautery. The paper concludes with a table of 43 cases in which a unilateral conservative operation had been performed. These operations took place between May, 1891, and the end of January, 1897. There were 62 operations on these 43 patients. The results in 4 of the 43 are not given, inasmuch as sufficient time had not elapsed to determine these. All the patients recovered rapidly from the operation itself. Twelve were subjected to various secondary operations. The patients operated upon have been re-examined at different times, 15 between six months and a year, 10 after a year, 16 after two years, 5 after three years, 1 after four, and 1 after five years. Only in 10 cases of operation has he not been able to trace the results. There have been 33 complete cures, or considerable amelioration of the symptoms, 7 were not improved by operation, 12 had to submit to some form of secondary operation, 6 to laparotomy, 3 to hysterectomy, 2 to curettage, and 1 to colpotomy.

There can be no doubt that modern gynæcology is decidedly moving in a more conservative direction, so far as removal of the appendages is concerned. Results such as those we have just quoted establish beyond doubt that before removal of both ovaries a most careful examination of the adnexa at either side should be made. In Pozzi's cases 12 subsequently became pregnant, 1 twice; thus,

after unilateral resection there were 8 pregnancies, 5 normal labours, 2 pregnancies which ran to near the full term, and 1 miscarriage at two months. After bilateral resection there were 4 pregnancies, with 3 normal labours, and 1 miscarriage at the second month. These facts speak for themselves.

Acute bed sore as a complication of vaginal hysterectomy.—

Paul Segond discusses the occurrence of bed sore as a complication of hysterectomy. Leprevost, of Havre, drew attention in 1892 to those gangrenous sores which are consecutive to sacro-coccygeal resections, characterised by their large size, sudden appearance, and rapid evolution, presenting all the characteristic traits of trophic trouble of spinal origin. In a total of 542 vaginal hysterectomies for pelvic suppurations, fibromas, cancers or adnexial tumours, Paul Segond has observed this complication 6 times, so that it must be regarded as a very rare one. Of these 6, the ages of the patients were respectively, 29, 36, 32, 19, 33, and 24 years. All were operated on by hysterectomy for peri-uterine inflammatory lesions, suppurative in 4, and non-suppurative in 2. In 1 instance the suppuration had a recent puerperal origin, the other 5 were chronic cases and had been invalids for a considerable time. Only in 1 of the 6 was there any considerable delay in operation, the latter lasting one hour, but in the rest the duration did not exceed from twenty to forty minutes. Clinically, the occurrence of the sore took place in the same manner in all of the cases. Five days after operation in 4 cases, and three in 2 others, without any ascertainable cause, there was the sudden appearance of a large erythematous patch, limited by a more or less regular contour, painful to pressure, and accompanied by swelling of the derma and subjacent parts. This was attended with elevation of temperature, and a general febrile condition. After some hours reddish bulla made their appearance, and two or three days subsequently a distinct eschar formed, at least as large as the palm of the hand, and including the entire thickness of the soft parts as

far as the bone. Further than the completion of the eschar and its extension to the sacrum, there was no other complication. Reparation always occurred, and complete cicatrization. Segond regards such eschars as altogether apart from those due to compression and prolonged dorsal decubitus. He looks upon them as akin to those sloughs which are the result of traumatic lesions of the spinal cord, and the consequent trophic trouble. There is the same early appearance, rapidity of development, and the same physical and clinical characteristics. There is, however, this difference, that the situation of the eschars is unilateral after hysterectomy, while the bed sore of spinal origin is usually in the middle line. At the same time Charcot's observation has to be remembered, that if the lesion of the medulla is unilateral, the trophic trouble is developed on the opposite side.

The one point of which Segond is convinced is, that the acute bed sore of hysterectomies is a trophic trouble provoked by the propagation of irritative nervous lesions resulting from focci-pressure or the mangling of the peri-uterine tissues. Such peripheral nerve lesions are peculiarly liable to result from prolonged manipulations in the removal of large fibrous tumours. But it does not appear, according to Segond, that the duration or severity of the operation is in any direct ratio to the occurrence of this complication, nor, on the other hand, does it appear to have its cause in any infectious element in the pelvic lesions. The complication has its direct cause in the operation. Analogous eschars described by Leprevost, which have followed in the wake of sacro-coccygeal resections, have been regarded by Morestin as special accidents occurring in certain predisposed individuals. Segond assigns a correlation between this so-called predisposition and severe suppurative lesions which have lasted a considerable time, or peri-uterine phlegmasias of considerable duration. An irritative susceptibility of the pelvic nerves is developed in these cases, and is accentuated by the traumatisms of the operation.

In the same journal there is an important article on gastro-enterostomy, with observations based on fifty cases operated upon between June, 1888, and September, 1896. The mortality of the fifty cases was 30 per cent. The remainder of the journal is devoted to a full analysis, with reviews of contemporaneous literature, of which the following are some of the most important :—"The Bacteriology of the Genital Canal in the Female, and during the Pregnant and Puerperal State," by C. Menges and B. Krinig. "Vesico of the Uterus," by Macenrodt (*Berliner. Klin. Wochenschrift*, December 7 and 14, 1896, No. 49, p. 1806, and No. 50, p. 1116). G. Durant, on "Deciduoma Malignum, a Review of the History, Pathology, and Clinical Characteristics of this Affection" (*Revue Medicale de la Suisse Romande*, November, 1896, p. 614, and December, 1896, p. 684). There is an interesting summary by Goldman, of papers by Schamraïeff, on "The Massage Treatment of Thure-Brandt in Gynæcology" (*Journal russe d'Obstetrique et de Gynæcology*, August and September, 1896). The conclusions arrived at are, briefly, that massage is a valuable treatment where there are remains of inflammations of the peritoneum and the cellular tissue of the pelvic basin, in displacements of the uterus or adnexes due to these, or where they are caused by cicatricial formation. Massage is contra-indicated in all acute conditions which may lead to suppuration or infection of the genital organs, and equally so where there is any special sensibility to any mechanical irritation. Massage does not prevent other therapeutic methods being employed.

There is also a lengthy note on a "Case of Extrophy of the Bladder, and a Modification of the Auto-plastique Method of treatment" (*Annales des Organes Genito-urinaires*, January, 1897, p. 31), by S. Pozzi, illustrated by plates of the various stages of the operation performed for its cure. The March and April number of the review has just appeared, and will be duly noticed in the August number of this Journal.

H. M. J.

SYSTEM OF GYNÆCOLOGY. Edited by THOMAS CLIFFORD ALLBUTT, M.A., M.D., LL.D., F.R.C.P., F.R.S., F.S.A., and W. J. PLAYFAIR, M.D., LL.D., F.R.C.P. Published by Messrs. Macmillan & Co. Second notice.

Dr. Boxall's article on *Diagnosis in Gynæcology* adds to the completeness of the System, and is in every way an invaluable contribution. In ordinary manuals the subject is necessarily scamped, whilst here a very full and well-thought-out *résumé* is presented to the practitioner. The very minutiae of its teaching as to the differentiation of so-called minor ailments is its greatest value. To the ordinary practitioner an ovarian cystoma offers less difficulties for diagnosis than a urethral caruncle, and to such the article is well worthy of close study. The manner in which menstrual irregularities, real and fancied, are treated of is highly commendable.

Dr. Armand Routh's contribution on *Gynæcological Therapeutics* is indeed a *multum in parvo*; the space it occupies would have had to be quadrupled to make it in the least degree of the service it deserves. It carefully, though very briefly, goes over a branch of the subject far too much, in the present day, overlooked. Hygiene, rest, and drugs are too simple for nineteenth-century treatment. Ante-operative procedures, both as regards the patient and the ligatures, instruments, &c., are clearly and ably described.

The article on *Sterility* is from the pen of Dr. Gervis, and is an able and judicious exposition of his views on this important subject. Whilst giving full credit to his large experience as a gynæcological teacher, we may regret that he has not thought it necessary, in such a treatise as this, to introduce and criticise some of the later ideas on the pathology and treatment urged by many of the Continental and American authorities.

Extra-uterine Gestation loses none of its interest in the hands of its contributor, Mr. Bland Sutton. The subject is fully yet tersely handled, and is very well illustrated.

Although the views expressed are already well known from earlier publication, it is probably the best chapter in the book. Mr. Sutton writes with the confidence of actual personal acquaintance with his subject in every minutiae, both in its histological and surgical aspects. He tenders evidence to emphasise the fact that "pelvic hæmatoceles have their source in hæmorrhages from gravid Fallopian tubes," a statement hardly, however, in unison with the view taken by Sir W. Priestley in the article next but one following. He denies altogether the necessity for any previous salpingeal affection, affirming "that a healthy Fallopian tube is more liable to become gravid than one which has been inflamed." He recognises that the condition is now very frequently diagnosed previous to rupture, and casting on one side the timid counsels that have heretofore urged fatal delay, expresses his conviction that "*as soon as it is fairly evident that a woman has a tubal pregnancy, it should be dealt with by operation without delay*" (the italics are his own). He gives full credit to Lawson Tait for his valuable pioneering in this malady.

Perhaps no article will be referred to so often, and with such avidity, by the practitioner as the last in the series, *On Diseases of the Female Bladder*, by Mr. H. Morris. The subject has never before been so completely dealt with, indeed but for a fair description in Skene's late edition, and Macnaughton Jones' "Diseases of Women," less than a couple of pages has been the space usually allotted to it in other works on women's diseases, be they treatise or manual. It is difficult to understand why a condition giving rise, perhaps, to greater misery in a larger body of sufferers of the female sex than any other disorder, should have not generally been deemed worthy of due recognition. And even here we rise from its perusal with a feeling that the article is more classical than clinically useful, and that a really valuable chapter on this subject remains yet to be written.

W. T.

[Several other chapters to which we have not been

able to allude are well worthy of perusal : and we regret that the necessary limits of a review prevent our noticing them in detail.—ED.]

TREATMENT : A JOURNAL OF PRACTICAL MEDICINE AND SURGERY. Rebman Publishing Company.

Since our last issue this fortnightly journal has been added to the list of now somewhat numerous medical publications. It has a number of well-known names on its editorial staff, and is to be so arranged that each and all the specialities will be duly considered once in every fifth number.

We quite agree in thinking that the subject of Treatment—both medical and surgical—is by no means sufficiently dealt with in the ordinary text-books. This desideratum applies more perhaps to medical treatises than to those of a surgical nature, and is no doubt to some extent due to the want of experience of many medical writers of those numerous details of treatment such as only a general practitioner has the opportunity of mastering.

We are not, however, by any means certain that there is enough scope under the title *Treatment* (that is, if that title be strictly adhered to) for a separate and distinct journal, especially as we already have a *Year Book of Treatment* and a *Medical Annual*, and we shall watch the career of our contemporary with interest.

SUMMARY OF GYNÆCOLOGY, INCLUDING OBSTETRICS.

EXPERIMENTAL STUDY OF THE PATHOLOGICAL ANATOMY AND BACTERIOLOGY OF SALPINGO-OVARITIS. By EMILE REYMOND, M.D., and WM. S. MAGILL, M.D. *Annals of Surgery*, September and October, 1896. A Review-Abstract by Arthur E. Giles, M.D., B.Sc.Lond., F.R.C.S.Ed.

(Continued from p. 606, part 48.)

THE MICROSCOPIC LESIONS OF EACH TISSUE.

(I) MUCOUS TUNIC AND CONTENTS OF THE SALPINX.—

(a) *Disposition of the Fringes.*—Under the influence of inflammation the fringes increase in size, and their ramifications are more numerous; the cellular infiltration distends the connective tissue, separates the epithelial surfaces, and gives the fringe a globular appearance, so that in some cases the fringes appear as large vegetating masses. But usually this enlargement is interfered with, by (i.) mutual compression; (ii.) the strangling of the mucous by the muscular tissue; (iii.) the pressure of the liquid which distends the salpinx; or (iv.) troubles of circulation. (α) As a result of mutual compression, the epithelium becomes modified; for whilst it remains cylindrical at the bottom of the *culs-de-sac*, it is flattened at the point of compression of the fringes. Later the epithelium disappears, and the fringes may unite across the lumen of the tube, forming a number of cysts or irregular passages; but the canal is never quite obliterated. (β) In the process of strangling of the mucous by the muscular tissue, the calibre of the tube is diminished. The greatest pressure is exerted laterally instead of terminally, and a part of the canal remains free in the centre. (γ) By distension of the tube the fringes tend to atrophy; some remain long and are often pushed back against the wall, to which they adhere by their free extremities. (δ) Disturbances of circulation also lead to atrophy, and the mucous may be reduced to a crown of flat epithelial cells, separated from the muscular coat by a thin band of intact connective tissue.

(b) *Epithelium.*—Desquamation and proliferation go on side

by side, so that in some places the connective tissue is left bare, especially in gonorrhœal endo-salpingitis. But in the parenchymatous salpingitis, proliferation is more rapid than desquamation, and heaps of grouped-up cells are formed, which, later, may fall off in shreds. The normal cells are usually replaced by cells of analogous form, but non-ciliated; and as the process becomes chronic, the cells tend to become flatter, especially in cases of hydro-salpinx. In other cases the cells undergo a granular fatty degeneration, or they may assume a lengthened-out form.

(c) *The Connective Tissue of the Mucous Tunic.*—The lymphatic spaces dilate under the influence of leucocyte infiltration, and if the affection persists new connective tissue forms, at first loose and becoming later thick and dense. The vessels contract and eventually disappear.

(d) *Contents of the Salpinx.*—The small number of leucocytes in the contents of the salpinx is a striking feature, even in pyo-salpinx; for the most part modified epithelial cells are found, at first ciliated, then of modified columnar type; later, the deformed nuclei colour badly, and about them the protoplasm is grouped in irregular form. In these irregular cells, which are usually in a condition of granular fatty degeneration, the gonococci are most frequently found, as well as streptococci.

(2) *THE MUSCULAR TUNIC.*—An intact muscular tunic is one of the characteristics of endo-salpingitis, although, owing to distension, it may appear thinned. In other cases, however, there is hypertrophy of the muscular coat, which then encroaches on the mucous, probably by the proliferation of those muscle fibres which are normally found in it as a kind of muscularis mucosæ. The change is brought about largely at the expense of the inflammatory cells which follow the vessels. Atrophy of muscle fibres is generally secondary to their hypertrophy; the mechanical influences and lack of sufficient vascularisation may be the causes; but in some cases it is no doubt due to the invasion of the connective tissue and its subsequent cicatrization. Sometimes, when the muscular coat appears hypertrophied, the microscope shows that the structure is principally fibrous tissue, in which remain only a few muscular fibres. The degeneration found in the muscle cells is in some cases vitreous with vacuolation, in other cases it is a granular fatty change.

(3) *VESSELS.*—Congestion is the first stage, especially in the mucous coat, except in salpingitis consecutive to a puerperal condition, in which the peritoneum is chiefly involved. Between these two extremes lie the larger number of cases, where the congestion is produced throughout the thickness of the salpinx. Distension of the smaller vessels and capillaries leads to their rupture; but there is a rarer form of interstitial hæmorrhage due

to torsion of the pedicle. To form an idea of the aspect of a section slightly magnified, it must be supposed that each of the elements had been disassociated, and drawn away from its neighbours to such a degree as to multiply five or six times the original square surface before the hæmorrhage. Now suppose all the spaces separating the disassociated elements to be filled with blood, the vessels all distended to considerable dimensions, and a very correct impression of the preparation may be had. Clotting takes place in the arteries, and interstitial hæmorrhage occurs in their coats from rupture of the vasa vasorum; the veins are so dilated that great difficulty is found in defining their walls.

The process in the arteries is a form of endarteritis obliterans, and it is certain that it can be produced in the salpinx under the direct influence of micro-organisms, especially the streptococcus pyogenes. The authors found this organism mingled with the inflammatory cells which surround the artery like a sleeve, but it is best seen in cases in which an embolism exists, and is found both in the substance of the clot and also covering the wall.

The lesions in the veins seem to be of a still more infectious nature than that in the arteries; a swelling and profusion of endothelial cells is frequently found, and underneath the internal tunic is either regularly thickened or irregularly budding. Capillaries of new formation penetrate the internal tunic. The lesions of the capillaries resemble those of the other vessels; some were found whose calibre was filled with streptococci.

The lesions of the lymphatics take place contemporaneously with those of the blood vessels. When the mucous is infected, the lymphatics in the fringes first enlarge and then become filled with inflammatory cells with which may be found mingled the streptococci.

THE OVARY.

The ovary may be attacked from the periphery or from the hilus. In the first case there has been an outflow of pus from the salpinx into the peritoneum, leading to localised peritonitis and the formation of the inflammatory tissue round the ovary. This shell about the ovary does not prevent its infection from the pedicle, but it might be that the inflammation was only peripheric, as is usually the case during gonorrhœal salpingitis. The lesions are then not deep, an ovarian collection of pus is not formed, and the only influence of the inflammatory envelope seems to be the compression it may exercise, thus hindering the circulation and producing in time the lesions of a sclerocystic ovaritis.

Some authors admit only this method of origin for ovaritis ; but having found the streptococcus, not only in the purulent cysts but also in the thickness of the ovarian tissues, the authors think that deep infection of the ovary can no longer be doubted. They recognise two stages of deep infection : (1) congestion and hypertrophy ; (2) atrophy and sclerosis.

(1) Vessels enlarge, lines of inflammatory cells infiltrate the cellular tissue, but penetrate only in small quantity into the ovarian stroma, where they are found along the vessels. Streptococci are visible in great numbers, especially in the cellular tissue of the aileron and about the vessels. Then hypertrophy occurs ; the ovisacs increase in number and volume, and the ovigeneous layer may be punctured with enlarged folliculi in close contact, some of which atrophy, whilst others may suppurate. At first the purulent cyst is analogous in structure to the follicular, the ovarian tissue surrounding it more abundantly supplied with capillaries and inflammatory cells ; the epithelium is still preserved in patches, and its liquid is troubled, containing leucocytes and epithelial cells in equal number. Later, the follicular envelope is lost, and the walls show from within outwards—(a) a layer of embryonic tissue ; (b) a zone in which this is organised into fibrous tissue ; (c) a zone of ovarian parenchyma, richly vascular. The purulent cysts tend to communicate with each other by rounded or irregular orifices. If the disease has been more acute, the lining is not smooth but torn and irregular, and detached necrotic portions may be found floating in the pus and infiltrated with micro-organisms. The walls no longer present the characters described above ; no fibrous envelope exists, but only a coat of embryonic tissue applied directly over a very vascular region, sometimes even carpeting the wall of the purulent pocket. It is then difficult to determine whether a purulent cyst has destroyed its walls, or whether it be a real abscess with no cystic antecedent.

(2) Stage of atrophy and sclerosis. The vessels become modified as in the salpinx, and diminish the blood supply. The connective organises into fibrous tissue, compressing the vessels, the muscular fibres, and the nerve filaments. The first effect of the development of connective tissue is increase in volume—chronic hypertrophic ovaritis—but later this tissue becomes compact, eliminating by progressive strangulation the elements of the gland—chronic atrophic ovaritis—or, as the authors designate it, *atrophic cirrhosis* of the ovary. The normal follicles tend to disappear, as also the small follicular cysts, while the large ones persist, forming the ordinary sclero-cystic ovaritis. The ovarian tissue may be attacked by fatty degeneration, which takes place in the muscular tissue and the walls of the follicular

cysts, especially the purulent ones ; and in their contents may be found fat globules floating in the pus.

SALPINGITIS AND GONOCOCCI.

(1) **MACROSCOPIC CHARACTERS.**—The opportunity to study gonococci salpingites in the acute stage is rare. The authors describe a case. The symptoms of salpingitis had come on a month before. The annexes were bound down by feeble adhesions ; the salpinx was of increased length with numerous adhesions beneath its peritoneal covering. It bends much more perceptibly at this stage than later on, when the thickened peritoneum would hide the reflexions, over which it passed in a straight line. The salpinx was of increased thickness, due to the congestion, which gave a bright red colour to the entire organ. This colouration was specially marked for the thickened but still independent fringes. Pressure upon the extremity of the salpinx caused the exit of a drop of thick yellow pus, exactly similar to that coming from the meatus in a case of gonorrhœal urethritis. The ovary showed peripheric sclerosis, the cysts contained in it were all serous.

The authors discuss the question whether such a salpingitis is curable. Some authors say not. Noble says “an obliterated salpinx can never become permeable ; the gonorrhœa always determines the occlusion of the pavilion with the exception of the case in which the propagation has been so rapid as to cause a fatal peritonitis.” In reality the gonorrhœa of the salpinx may leave the pavilion open, and the infection passing from the acute period to the chronic would result in a catarrhal salpingitis which should be interpreted in the way adopted by Thibault, who distinguishes two types of gonococci salpingitis—the catarrhal, containing only gonococci, and the purulent salpingitis which results from a mixed infection. Gonorrhœal salpingitis in its catarrhal state is secondary to the purulent form of the same infection, and a step towards recovery. When, on the other hand, the pavilion closes the pus collects, and the tension of the liquid aids in hindering the flow of the pus from the ostium uteri, the pyo-salpinx still containing gonococci. Eventually it becomes a hydro-salpinx.

Gonorrhœal salpingitis is rarely febrile ; this serves to diagnose it from the salpingitis of the streptococcus, pneumococcus and bacterium coli. An elevated temperature ought to excite a strong suspicion of secondary infection.

(2) **DISTRIBUTION OF GONOCOCCI IN THE TISSUES.**—(a) *In the Pus.*—The authors, with numerous others, have found the gonococci here.

(b) *In the Mucous Membrane.*—By colouration with methylene blue and pure tannin, gonococci may be demonstrated in the

purulent layer covering the epithelium; in this layer they are found in the epithelial cells, in the leucocytes, and sometimes between the cells. Deeper than this the authors have never discovered the organism.

(c) *In the Muscular Coat.*—Wertheim reported that he had found gonococci here; but his observations have not been confirmed by any other observers, nor did the authors succeed in finding them.

(d) *In the Peritoneum.*—When pus passes out from the open end of the tube, a localised peritonitis is set up in which gonococci may be found. Wertheim believes that the peritoneum may be attacked from its deep surface, consecutive to the infiltration of the gonococci through the tissues of the salpinx. The authors do not hold this view.

(e) *In the Ovary.*—Gonococci have never been found in an abscess of the ovary, nor in any histological section of that organ; nor have the authors ever seen a cyst of the ovary become purulent when the salpingitis was of pure gonococcic origin.

(3) *PATHOGENY.*—Luther admits three explanations of the presence of the gonococcus in a salpinx:—(a) By continuity of the mucus; (b) by contiguity and passage through the tissues; (c) by the circulatory system, generally by the lymphatics, but sometimes through the blood-vessels.

The authors admit only the first explanation; they limit the direct responsibility of the gonococcus in the production of puerperal fever and secondary infection; but believe that it exercises an influence, as yet little known, which disposes the tissues to be easily attacked by a mixed infection, either by increasing the virulence of the other micro-organisms, or by diminishing the resistance of the mucous surfaces.

STREPTOCOCCIC SALPINGO-OVARITES.

(1) *GENERAL CHARACTERISTICS OF THE SALPINGO-OVARITIS OF STREPTOCOCCI.*—The authors found the organism in a number of cases which would have been considered as salpingo-ovarites absolutely sterile, if examined by the usual classic methods: for the streptococci were so attenuated as not to develop in the ordinary mediums of culture. In contradistinction to gonorrhœal cases the salpinx is less affected than the neighbouring regions. The ovary is large and distended, the ailerous surpass in thickness the salpinges even. The localisation at the ovary becomes more and more accentuated. No longer are the lesions confined to the periphery, but ovarian abscesses or pus-cysts are found. These pockets sometimes remain independent of the salpinx, but more frequently communicate with it near the pavilion. This salpingo-ovarian collection is the most common form offered by the streptococcic

salpingo-ovaritis. The peritoneal adhesions do not appear to be localised about the pavilion; the entire thickness of the tissues is interested, and the peritoneum is contaminated by its posterior surface.

The commencement of the affection can almost always be traced to puerperal accidents, and the symptoms resemble those of an abscess of the broad ligament rather than those of the classical salpingitis; the physical signs are due to the lesions of the ovary rather than to those of the salpinx. After operation, if the drainage is removed after forty-eight hours, the temperature is frequently seen to ascend, probably consecutive to a slight push of infection at the level of the pedicle. For the first two or three days the liquid drawn off by the pipette, if examined, shows the presence of streptococci. Hence in streptococcic salpingitis the drainage should be maintained for several days, whereas in gonorrhœal salpingitis twenty-four to forty-eight hours of drainage are sufficient.

(2) DISTRIBUTION OF THE STREPTOCOCCI IN THE TISSUES.—

(a)—*In the pus.*—The liquid furnishes leucocytes and eliminated deformed epithelial cells. The streptococci are rare in the leucocytes, more often in the epithelial cells, but most frequently to be found between the cells.

(b) *In the Mucous Membrane.*—In advanced cases the lymphatic in the centre of each fringe is greatly dilated, containing leucocytes and streptococci. The epithelium is in places intact, but non-ciliated. At certain points a super-position of several layers of epithelium is seen, and beneath this mass may be found a group of streptococci. Sometimes this mass is detached *en bloc*, leaving the fringes bare; the tissues underlying it are then found more or less infiltrated with streptococci. The superficial cell is not attacked by its free surface, as in the case of gonorrhœal salpingitis, but by its deep surface, and therefore the cells do not fall separately, as in the other form, but in masses.

(c) *Muscular and Connective Tissue Vessels.*—In the thrombi of small vessels streptococci are found; at other times the endothelium is seen to send out promontories into the vessel's calibre, and here the streptococci are found both within and without the free passage of the vessel. Labadie-Lagrave says that "upon the blood is imposed the duty of destroying and attenuating the streptococcus."

(d) *In the Tissue of the Ovary.*—The streptococci first follow the lymphatics and blood vessels, and later are found in the ovarian structure itself, as well as in the purulent cysts and cavities, and in the connective tissue.

(3) PATHOGENY.—*In case of Gonorrhœa* the progressive steps of the invasion are: vulvitis, urethritis, sometimes vaginitis, cervical metritis, with its ascending infection attacking the mucus

of the uterus, to reach that of the salpinx, thus constituting gonorrhœal salpingitis. If the salpinx is unobliterated near the pavilion the pus flows into the peritoneum, causing pelvic peritonitis. In acute cases extension to the entire pelvic basin is possible, causing great adhesions, enclosing in their mass collections of sero-purulent matter.

In Streptococcic Infection as the result of some puerperal accident, streptococci, having penetrated the uterus, traverse its walls and infect the peri-uterine tissues, causing, according to its location, a lymphangitis, phlebitis, cellulitis, a phlegmon of the broad ligament—a series of affections which may be combined. This constitutes the first stage, after which the affection confines itself to the walls of the ovary or salpinx, thus forming the second stage, that of salpingo-ovaritis.

Such is the course in one type. In a second, the salpingo-ovaritis may be of secondary importance, compared with the phlegmon of the broad ligament. In a third type, the first stage of the infection predominates so far that the salpingo-ovaritis may not have time to develop.

To resume, genital gonorrhœa in the female is an affection extending *on the surface*, along the mucous and on the peritoneum.

Genital infection of the female by streptococci constitutes an affection which from the beginning attacks the *tissues in mass*; the mucous and serous may be affected, but secondarily.

These two affections differ in their course, progress, symptoms, topography and prognosis. Both agents of infection attack the *ovary* and *salpinx*, their only common point; and here the lesions which each determine are entirely different.

PNEUMOCOCCI, STAPHYLOCOCCI, BACTERIUM COLI COMMUNIS, UNUSUAL MICROBES, AND SAPROPHYTIC MICROBES.

Salpingites due to these organisms are all very rare; the bacterium coli is found only in cases of salpingitis with adhesions to the intestine, and beyond this fact the salpingitis offers no special characteristics. For details of these rare varieties we refer the reader to the original important and interesting papers.

THE PATHOLOGY AND TREATMENT OF RETROFLEXION. By B. S. SCHULTZE. *Monatsschr. f. Geb. u. Gyn.*, iii. p. 1, and p. 101.

In an article in the previous volume of the same journal, Theilhaber, of Munich, insisted that retroflexion had nothing to do with the troubles generally attributed to it, but that these troubles were due to atony of the intestines, neurasthenia, metritis, endometritis, or other causes independent of the dis-

placement. In his hands orthopædic treatment had been useless, symptomatic had given relief without any correction of the position of the uterus. He had treated ninety-five cases of constipation without reposition, atony of the intestine was generally present, but only two cases proved intractable. Women do not complain of retroflexion alone; hæmorrhage, or discharges or nervous troubles, may drive them to seek medical advice, but are not consequences of the displacement. There is, as a rule, no necessity for medical cure, and vaginofixation should not be performed except in cases with prolapse.

In reply to the above, Schultze points out that even temporary reposition sometimes has such a good effect upon the involution of an enlarged uterus that all trouble disappears for a time. Nervous disorders, to which patients with retroflexion are very liable, will, of course, if they are independent of the displacement, persist, and the discharge of co-existing endometritis will not cease if the inflammation has extended to or beyond the uterine substance, or caused any permanent change of tissue; and if the endometritis be independent of the displacement it will be unaffected by its correction.

Upon hæmorrhage the effect of reposition is generally immediate, and often surprising; a noteworthy indication to practitioners is, that in a nursing woman the return of the menstrual discharge should suggest retroflexion, and if the retroflected uterus be at once replaced there is often no recurrence of hæmorrhage till after the child is weaned.

The decrease in size of an enlarged and retroflected uterus upon the correction of the displacement, depends on the relief of such congestion as would itself be an indication for reposition.

The pathological significance of an uncorrected displacement is not altered by the fact that the condition of the patient is greatly improved by the relief of her constipation, and it is a fact assured by experience that certain morbid nervous symptoms do depend on retroflexion, while the assertion that the disappearance of these symptoms on reposition is entirely due to suggestion, is not reliably supported.

As regards the mechanical treatment of retro-deviations of the uterus, Schultze reiterates the principles formulated by him twenty-four years ago, and generally accepted up to the present day. Pessary treatment is always the first to be considered, and very often a well-applied pessary will, after reposition, not only maintain the normal position, but also restore the normal mobility of a previously retroflected uterus, an effect more perfect than can be secured by any method of operative treatment.

If, in spite of a properly applied pessary, and though properly replaced, the uterus persistently relapses into its faulty position, it is of supreme importance to determine the true cause of this

evil behaviour. Parametric cicatrices and peritoneal indurations should be treated by Thure Brandt's method of massage. When an operation is necessary for the separation of an adherent uterus and afterwards recurring its restored position Schultze thinks it is generally best to attack it directly through Douglas' pouch, but laparotomy is necessary when the adhesions are such that their separation out of sight is too dangerous to be attempted, and at the same time the degree of suffering makes reposition imperative when laparotomy has to be performed and the case is unsuitable for pessary treatment. Ventro-fixation is, according to Schultze, without doubt the safest procedure; Mackenrodt's vagino-fixation, which he has tried in thirty-one cases, he considers discredited by the large number of relapses and interference with labour, while the more recent method of vesico-fixation is promising he reserves his opinion for further experience of its results. Schultze has never on any occasion had to perform laparotomy in a case where the uterus was freely responsible.

On the ground of further experience Theilhaber returns to the charge (*Ibid.*, p. 111) and says that even orthopædic treatment is unnecessary, that it took a quarter of a century to abolish the orthopædic treatment of ante-flexion, and it may be that before another five-and-twenty years elapse all will be convinced that the uterus, which, environed as it is by organs with varying contents, must change its form and position every hour, may undergo other variations of form and position without thereby inducing any serious disturbance of the health of the body.

J. J. M.

A NEW METHOD OF OPERATIVE TREATMENT OF PROLAPSE OF THE UTERUS AND VAGINA. Dr. Abrajanoff in the September number of the *Russian Journal of Obstetrics and Diseases of Women*.

The chief idea of this method is that of forming four bars for the support of the uterus, these bars being in front, behind, and at the sides, and leaving a central narrow aperture through which the secretions of the uterus may escape. The bars are formed by suturing together the mucous and muscular coats of the vagina in the following manner: At the level of the vaginal portion of the cervix, a flap is marked out on the anterior vaginal wall horizontally, and 3 c.m. wide; the ends do not reach the lateral wall by about 1 c.m., and are somewhat higher than the centre. The surface marked out is now vivified. The posterior surface is similarly marked out and dissected off. Then one finger's breadth lower down, similar surfaces are marked out on the lateral walls, and care is taken that their extremities reach out upon the anterior and posterior

vaginal walls, and that they are higher than the centres of the surfaces. The sutures are now inserted in the following way: The needle is passed with one sweep under the whole length of the surface, each surface requires three such sutures. Silk is the best material. The sutures of the anterior and posterior surfaces are drawn tight first, then the sutures at the sides. In this way two incomplete rings of closure are obtained which form about four broad supports arising from the application of one segment of the raw surface to the other. And since the ends are higher than the centres of the raw surfaces, therefore the parts of the support nearest the axis of the vagina are higher than the parts which immediately adjoin the vaginal wall.

In addition, the vaginal wall is diminished by this operation from above down, *i.e.*, in length. The sutures are tied and the operation is finished. The ends of the sutures are brought out through the central narrow channel and are removed at the end of three weeks. In this way, the tendency to prolapse of the uterus and vagina is prevented by the erection of these two pairs of supports, which support the uterus and are arranged in a cross shape.

Corresponding to this narrow place in the vagina the passage is extremely small, and likewise above and below this the passage is more or less contracted, and its walls shortened in the longitudinal direction. As a consequence of what has been said, the uterus rests immediately upon the two upper supports, which are higher at their centres and which take their support from the two lateral ones below them. Even if the uterus were to separate the upper supports in the antero-posterior direction, it would even then fail, because the lower channel is at right angles to the upper one.

The advantage of the author's method over that of Neugebauer is that there is no union between the anterior and posterior wall, which becomes stretched by coughing and straining, &c. Likewise, coitus which is so injurious to Neugebauer's partitions is innocuous to Abrajano's method. F. E.

EXTRA-UTERINE PREGNANCY. By DR. C. STUDGAARD. *Nord Med. Ark.*, N.F., vi. 4. No. 17, 1896.

During the last twenty years only eighteen cases of extra-uterine pregnancy have occurred in the Copenhagen Municipal Hospital, but it is very probable that this condition had existed in many women treated for hæmatocele, after rupture and recovery with resorption, the true origin of the hæmorrhage not being recognised.

In most of these eighteen cases the pregnancy was tubal and in an early stage, but several cases were more or less

advanced, tubal, interstitial or tubo-abdominal, but none ovarian. One, which seemed to be a case of primary abdominal pregnancy and was treated by laparotomy and extirpation, was apparently of less than six weeks' development; no connection between the ovisac and the tubes or ovaries could be discovered. (In agreement with Hennig's statistics.)

Only four of the women were between 20 and 30 years of age, the other eighteen were between 30 and 40, and as elsewhere, the large majority were multiparæ, childbed having previously occurred once in eight, two or three in three, four times in two, and seven times in one case—one woman, collapsed on admission, could give no information.

In thirteen instances there was trickling hæmorrhage, sometimes with shreds of decidua; and once a complete decidual sac was expelled from the womb. Dysuria from pressure of the uterus forwards and upwards on the bladder, is mentioned in eight cases.

Dangerous collapse from internal bleeding occurred, in several cases, from rupture of the ovisac during the early months; but the first rupture of tubal pregnancy did not necessarily terminate the pregnancy; in one case the woman died in the third month, and in addition to the recent rupture which had caused her death, organised blood clots were found filling a dilatation at the end of the tube and covering the floor of the pelvis. In another case, there was an old agglutinated rupture in the proximity of the recent one. The vessels of chronic peritoneal exudations surrounding the ovum have very thin walls, and their rupture, which may be brought about by the slightest injury (*e.g.*, increased peristalsis), is liable to cause severe hæmorrhage; one patient collapsed after being examined, after sitting up in bed.

The pregnancy lasted very various periods, and for more than six months in six cases, sometimes with a surviving fœtus, sometimes with a dead one, or with suppuration. The other twelve cases were in the third or fourth months and proofs of the success of extirpation, which is the treatment uniformly adopted for some years past in both surgical divisions of the hospital; three were fatal from internal hæmorrhage after rupture of the ovisac (1880, 1885 and 1887) before operation; the other nine recorded after laparotomy and extirpation of the ovum, indicated in four by collapse with intraperitoneal hæmorrhage and in the others by the provisional diagnosis.

Whether laparotomy is to be preferred to the vaginal operation recently advocated is an undecided question. The smaller the ovum is and the deeper it lies in the pelvis, the better the prospects of the vaginal method, but if the ovum be ruptured or breaks during the operation the difficulties in the

way of completing the operation in vaginal cœliotomy are much greater than in laparotomy. As in many other cases preference depends upon practice: the less brilliant operator will have more complete control of what should be done, and how to do it, by the suprapubic incision than by the vaginal, and Leopold Mayer's statistics show that laparotomy is preferred as more reliable than vaginal operations by most surgeons.

Puncture of the ovum, with or without injection, in order to kill the foetus and cause it and the ovisac to shrink and be more or less completely absorbed, has disappointed the expectations about it and is generally condemned.

REPEATED EXTRA-UTERINE PREGNANCIES. By TVIVO FORSS-TRÖM: *Finska läkaresällik handlingar*. xxxviii. 9, p. 739.

Nineteen definite cases of similarly repeated extra-uterine pregnancy collected from various sources are followed by a case of Prof. Engström's in which pregnancy occurred first in one tube, and then in the other; she was a woman of 33, who at 21 had had a normal labour of a normally developed child; two years ago she had amenorrhœa for six or seven weeks, then hæmorrhage for nearly four, accompanied by attacks of pain in her *left* iliac region; menstruation was then again regular for some months and appeared for the last time in April, 1896. Hæmorrhage began on June 6, and continued till her examination by Prof. Engström on the 26th; it was accompanied by intermittent pain in the right iliac region, but the pain was not so severe as before; the woman at first thought herself pregnant but had no sickness; uterus anteflexed, but not much enlarged; the portio, neither enlarged nor softened, stood at an obtuse angle with the vagina, and the external os was dilated. To the right of the uterus a resistance extended far beyond the corpus uteri, and there was a diffused resistance about the left ovary.

On June 30 both tubes and the left ovary were removed; to the right and behind the uterus there was a blood-clot in connection with a rupture (3 c.m.) on the posterior face of the ampullary portion of the ovary; the right tube formed at this spot a cavity 3 c.m. in diameter, filled by a dark blood-clot with light stripes, in which chorionic villi were found on microscopical examination, the left tube at its ampulla formed a cavity in which there was a foetal skeleton. Uninterrupted recovery.

J. J. M.

ON THE RECOGNITION (Kentniss) OF TUBAL PREGNANCY. By A. MARTIN (Berlin). *Monatss*, v. I.

That tubal pregnancy when interrupted in an early stage may undergo spontaneous involution and the functional activity of the tube be preserved, is shown by the following case, and is

probably an occurrence much more common than is generally supposed.

In a young woman who had suffered from hæmorrhage for some weeks, was found to the right and near her slightly enlarged uterus a soft, thin-walled tumour as large as the fist. As there was a suspicion of extra-uterine pregnancy and the hæmorrhage continued, the peritoneum was opened through the anterior fornix, when an old blood clot was discovered. The tumour on the right side proved to be an ovarian cystoma; in the left tube there was a small swelling which was removed by splitting the tube wall, and found to be an ovum in process of involution. As the injury to the tube was stitched up, there is no reason to doubt its subsequent functional capability.

Martin strongly advocates anterior colpotomy for the treatment of tubal pregnancy in the early stages.

A CASE OF THE CLINICAL DIAGNOSIS OF TUBO-UTERINE PREGNANCY. By EIERMAN. *Monats*, v. 1.

A woman in the fourth month of pregnancy had suffered from hæmorrhage for some weeks. Labour pains occurred, but after some hours the os was only passable by one finger, and only a few fragments of the ovum had come away. Under anæsthesia a putrid fœtus of about 3 months' development was removed in pieces with some difficulty. The dilated cavity was then empty, and near the right tube there was a sausage-shaped thin-walled sac communicating with the uterus through a sharp-edged round opening. From this secondary cavity the placenta was removed with some difficulty, whereupon this cavity and its communication with the uterus contracted and the hæmorrhage ceased.

The woman died from sepsis, and unfortunately no autopsy could be obtained. In an extended analysis Eierman seeks to prove that this was a case of interstitial pregnancy rather than a deformity of the uterus.

PERITONEAL FLOODING FROM RUPTURE OF TUBAL PREGNANCY. By CHOYAN. *Thèse de Paris*, No. 117, 1896-97.

Choyan collects 173 cases, mostly from the last three years, and concludes that per-uterine hæmorrhage is nearly always due to extra-uterine pregnancy, an occurrence much more common than is generally supposed,¹ and usually takes the form of retro-

¹ Schauta collected 626 between 1876 and 1891, and Vasten saw in the Oboukhowski Hospital 77 cases in three years, 18 of which were operated on *in extremis* for peritoneal flooding.

uterine hæmatocele, but that peritoneal flooding, the cataclysmic hæmatocele of Robert Barnes ("System," vol. i., p. 324), is not infrequent. When rupture of a tubal pregnancy is suggested by symptoms of internal hæmorrhage, following one or more attacks of pain and preceded or accompanied by menstrual disturbance, reflex symptoms of pregnancy, pelvic pain, &c., no time should be lost on the etiquette of exact diagnosis; prompt intervention is indicated, and accurate knowledge and complete control of the hæmorrhage can be secured only by laparotomy.

The cases quoted show that this operation is relatively easy to perform and was successful in 86.4 per cent. Hypodermic or intravenous saline injections are the best means of treating the anæmia caused by the hæmorrhage.

COMPLETE OVISAC AND EXTRA-UTERINE PREGNANCY; REMOVAL OF A DEAD FÆTUS AT TERM. By ROUTIER. *Sem. Med.*, p. 83.

The author communicated to the Academy of Medicine in Paris a case of right tubo-ovarian sub-peritoneal pregnancy at term, in which he detached the fœtal sac from its multiple adhesions and removed it entire; it contained a dead fœtus and weighed 5,275 grammes. The iliac vein was lacerated, the right ureter divided, and the bladder opened during the operation, which was nevertheless successful. Considering the enormous difficulties he experienced in liberating the ovisac, Routier thinks it wiser when such a pregnancy has gone beyond six months, to be content with opening the sac, removing the fœtus, and draining the cavity, as Pinard recommends, being most careful not to detach the placenta if the child is still alive.

J. J. M.

ON MALFORMATIONS OF THE EXTRA-UTERINE FÆTUS. By JOACHIMSTHAL. *Berl. Klin. Wochns.*, 1897, No. 4, 75.

Joachimsthal describes, with an illustration, a fœtus of four and a half months removed by laparotomy after the rupture of an extra-uterine pregnancy. The attitude and shape of the head are very remarkable: it exhibits a depressed furiva torticollis, double clump-foot, and displacements of the fingers and toes from mechanical conditions. The case also proves that permanent torticollis with marked inequality in the length of the sternomastoid muscles may develop long before term.

ECTOPIC PREGNANCY. (Discussion before Chicago Gynæcological Society.) *Gynæcological and Obstetrical Journal*.

Dr. Carl Wagner narrated the history of a case to which he had been summoned on that very morning. The patient, who was pregnant four months, was seized suddenly with a severe pain at 8.30 a.m., immediately after intercourse. Dr. Wagner saw her at 9 a.m.; diagnosed rupture of extra-uterine sac; had a consultation with Dr. Reynolds at 10 a.m.; decided to remove her immediately to hospital close by; performed operation at once after injecting subcutaneously one quart of saline solution, but she died before last stitch was put in though the operation only took twenty minutes.

Dr. Reynolds, who had seen the case with Dr. Wagner and entirely approved his treatment, thought the question of operating in such exsanguinated cases well worth discussing.

Dr. J. H. Etheridge was in the habit of teaching students in cases of "terrific" hæmorrhage to apply pressure to the abdominal aorta, and he thought that if Dr. Reynolds were to do the operation again, he would probably make an immediate operation in the house.

Dr. J. T. Brinkley, jun., questioned whether it was wise to transfuse before the bleeding point had been secured, as with increased blood pressure further hæmorrhage might ensue.

Dr. E. C. Dudley called to mind two cases which were so collapsed that operative measures were out of the question at the moment, and as the rallying was gradual the patients recovered without operation. It was a vexed question in surgery to know when to operate and when to wait. It was clear that a good many cases did recover without operation.

Dr. J. H. Etheridge supposed that when patients died from hæmorrhage, they died because of the anæmia of the cardiac centre, for the amount of blood lost was not always a very large quantity.

Dr. M. L. Harris thought that sufficient stress was not laid on the *amount* of fluid injection, which should be far in excess of the quantity of blood lost. He transfused the saline solution three or four times. He further considered that in collapsed cases the blood in the abdominal cavity should *not* be removed, as it would be re-utilised by the system, and that no transfusion should take place till the bleeding point had been secured. He had no doubt as to the advisability of all these cases being operated on.

Dr. G. W. Reynolds had advised removal to hospital because it was close by, because everything was there ready and aseptic, and because operating in the house meant considerable delay. They had left the effused blood in the peritoneal cavity so as not to lose time or cool the intestines.

Dr. Etheridge was of opinion that the legs should not be bandaged, as by so doing more blood was forced into the trunk.

DISCUSSION ON THE TREATMENT OF POST-PARTUM RETENTION.

(Société Obstétricale et Gynécologique de Paris.) *Journal de Médecine de Paris*, February 7, 1897.

M. Nitot observed that he had long been a determined advocate of curetting in pathological conditions of the uterus after labour, and had had frequent occasions to employ it in his practice with success. His experience led him to devise curettes of large sizes which enabled him to scrape rapidly the whole extent of the enlarged uterine cavity as found after labour, thereby rendering almost impossible any perforation of the softened uterine walls in that condition.

These curettes were strongly constructed upon a long, straight and solid handle. They were fenestrated like Sim's, but not so oval and more rounded at their extremity, presenting two edges, one being blunt, the other sharp, either of which could be used at discretion. These edges were perpendicular so as to act only by scraping under pressure with the curette. They were in three sizes measuring at the fenestra $2\frac{1}{2}$ c.m. (1 inch), $3\frac{1}{2}$ c.m. ($1\frac{2}{5}$ inches) and $4\frac{1}{2}$ c.m. ($1\frac{4}{5}$ inches) in width respectively.

M. Budin stated that he had been curetting less and less after labour and abortion. The curette was a blind instrument; the uterine tissue when diseased was very friable. Under chloroform, he cleansed the uterine cavity with his fingers, he removed the *débris*, which he could feel better than with the curette, without any risk of perforating the uterus. He terminated this operation by washing with an antiseptic liquid and swabbing the uterine cavity in all directions. He, therefore, very seldom had recourse to curetting, nor did he ever use the curetting forceps.

M. Charpentier differed entirely from M. Budin upon this point; he had nothing but praise to say of curetting, he had never had any accident. He advocated the sharp-edged curette, the only one which enabled him to remove retained *débris* of placenta. He advised an elaborate scraping until the characteristic sound of the curette upon the mucous surface of the uterine cavity was observed everywhere.

M. Bonnet said curetting should be performed under chloroform, with the finger introduced as a guide to the curette. When the uterus was not infected, it could not be perforated by a sharp-edged curette, but one had to be extremely careful when the uterus was diseased.

Mr. Loviot advocated the principle of cleansing rather than that of curetting. He used the curette with the greatest

prudence, and, if necessary, he would repeat the manœuvre the next day if the first sitting had not sufficed.

M. Budin protested emphatically against the principle of M. Charpentier with regard to the characteristic sound elicited by the curette upon the mucous surface of the uterine cavity, adding that, in persisting to obtain it, one ran the risk of purely and simply entering the abdomen with the curette. He wished to assure his colleague that it was not only with the curette that the uterus could be thoroughly cleansed. On January 11, 1895, he saw two women at the "Maternité" seriously infected, having a temperature of 40° C. (104° F.). After considering with Dr. Charrin the advisability of administering injections of anti-streptococcic serum, the idea was abandoned owing to one being very deeply infected and not likely to recover, and the other suffering from Bright's and heart diseases. He cleansed the uterus with the finger and swabbed it in both cases. The first case left the hospital cured. In the second, the symptoms of infection disappeared, but she died, in about eight days, of uræmic poisoning. M. Charrin made an autopsy and confirmed the existence of lesions in the kidneys and the heart. The uterine cavity was normal, and cultures tried with the liquid which could be collected gave no result. It was, therefore, possible to cleanse the uterine cavity thoroughly with the fingers and by swabbing, and the process being less dangerous than the curetting, should be preferred.

M. Charpentier explained that the difference of opinion between M. Budin and himself consisted in their intervening under two very different conditions. M. Budin had spoken of uteri deeply infected, whose tissue was considerably altered and softened. Curetting under those conditions was extremely dangerous and, moreover, from his own point of view, perfectly useless. The patient was then infected too deeply, and it was absolutely necessary to confine the operation to an elaborate cleansing of the uterine cavity with swabbing, which itself was not without danger. Any attempt to elicit the characteristic sound before mentioned, under such conditions, would be as useless as it would be impossible. But it was not thus that he understood curetting. According to him, it should be performed at the first appearance of symptoms of infection, as soon as the second intra-uterine injection had proved unsuccessful, and rather sooner than later. Under those conditions the curetting would act exclusively upon the uterine mucous membrane, which alone was affected; the micro-organisms not having had time to extend their action to the muscular tissue of the uterus, the latter would offer conditions of resistance and tonicity which would allow a vigorous curetting to be performed, in which case the characteristic sound before mentioned could always be elicited.

He affirmed this from the fact that he had always observed it. The mucous membrane would thus be effectively removed and the swabbing performed with a hard swab soaked in a mixture of glycerine and creosote 3 to 1, which would complete the operation by removing the last shreds of mucous membrane detached by the sharp-edged curette.

It was because curetting was performed too late, when the uterus had been invaded in the entire thickness of its walls, and the infection had become generalised, that the operation was unsuccessful.

By intervening during the first twenty-four hours of the infection, and curetting freely and boldly, the uterus still nearly intact, all those patients could be saved. Perforation in those cases was not to be feared, cauterisation prevented hæmorrhage, and the characteristic sound which could always be elicited under those conditions gave the certainty that the curetting was complete.

Performed under such conditions, curetting was infinitely superior to the classical cleansing of the uterine cavity. Practised by an experienced hand, it was without danger, and it was precisely because of its being devoid of danger that it had better be employed sooner than later, bearing in mind that puerperal infection diffused itself very rapidly, in which case any delay was a loss of time which lessened the chances of curing the patient.

M. Pichevin deprecated the use of cutting curettes after labour, owing to the increased friability of the uterus at that time; but admitted the necessity of curetting after abortion, when it was difficult to perform an effective operation with the fingers.

M. Bonnet said that the curette was more rapid than the fingers when the uterus was not yet infected; but when it became necessary to remove the *débris* formed in septic endometritis, swabbing was the proper means to effect such purpose.

M. Budin had only used the curette once in several years, and under the guidance of the fingers. Nevertheless, when he commenced the operation of cleansing the uterus, he always had prepared curettes at hand.

P. Z. H.

NEW BOOKS &c., RECEIVED.

(Besides exchangeable Journals.)

- The Technique of Resections of the Skull. By Allen de Vilbiss, M.D. (Toledo, Ohio). Chicago : American Medical Association Press. 1896.
- What can and can not be done for Nasal Catarrh by local applications. By Allen de Vilbiss, M.D. (Toledo, Ohio). Chicago : American Medical Association Press. 1897.
- Handbuch der Gynäkologie. By J. Veit (Leiden). Wiesbaden : J. F. Bergman. 1897.
- Shortening the Round Ligaments : Indications, Technics and Results. By George M. Edebohls, A.M., M.D. Reprinted from the *American Gynec. and Obstet. Journal*, December, 1897.
- Quel est le meilleure Mode de Fermeture de l'Abdomen. Rapport du Professor Felice la Torre (de Rome). Paris : Imprimerie, F. Leu  , Rue Casalle 17.
- Total Extirpation of the Uterus and Appendages for Diseases of those Organs. By Horace Tracy Hanks, M.D. (New York). Reprint from vol. xix. *Gynecological Transactions*, 1894.
- Counter Drainage after Coeliotomy. By Horace Tracy Hanks, M.D. (New York). Reprinted from the *Post-Graduate*, No. 4, 1893.
- A Study of the Pathological Conditions of the Pelvis, which ought to be attacked from the Vagina. By Horace Tracy Hanks, M.D. (New York). Reprinted from the *American Gynec. and Obstet. Journal* for June, 1896.
- Retro-Displacements of the Uterus and its Appendages ; the Cause, Prevention and Cure. By Horace Tracy Hanks, M.D. Reprinted from the *Post-Graduate*, 1897.
- The Treatment of Lupus. By Balmanno Squire, M.B.Lond., Surgeon to the British Hospital for Diseases of the Skin, King's Cross. London : J. & A. Churchill, 7, Great Marlborough Street, 1897.
- Results of (Chemical) Electrolysis versus Divulsion or Cutting in the Treatment of Urethral Strictures. By Robert Newman, M.D. (New York). Reprinted from the *Medical Record*, March 27, 1897.
- The Publishers' Printing Company, 132, 134, 136, West Fourteenth Street, New York, 1897.
- Ueber Marion Sims und Seine Verdienste um die Chirurgie. Von Professor Dr. R. Oldshausen. Berlin : Verlag. von August Hirschwald, N. W. Unter der Linden, 68.

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THE BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, MAY 13, 1897.

PROF. A. W. MAYO ROBSON, F.R.C.S., PRESIDENT, IN THE CHAIR.

PRESENT : 30 Fellows and Visitors.

The following gentlemen were proposed for election :—
J. Astler, M.B.Ed., Adelaide ; J. Stevenson, M.D.Glas.,
Glasgow ; H. M. Macnaughton-Jones, M.D., R.U.I.London.

NOTES OF FIVE CASES OF FIBRO-MYOMA OF THE UTERUS.

By F. BOWREMAN JESSETT, F.R.C.S., Surgeon to the
Cancer Hospital, &c.

For the notes of the first three cases I am indebted to
my House Surgeon, Mr. Barton.

*Case. I.—Case of Fibro-Myoma of Uterus. Sub-Peritoneal
Hysterectomy. Recovery.*—A. W., aged 41, came under my
care on February 10, 1897, complaining of abdominal
swelling, with severe pain in back and hips.

Family History.—One daughter died of phthisis.

Patient's History.—Always fairly healthy. Pregnancies,

four ; children, three ; miscarriage, one. Last pregnancy was normal, eleven years ago.

History of Present Condition.—Menstruation was regular up to eighteen months ago, lasting usually seven to eight days. She then lost blood for *one month* without ceasing. During past five months menstruation irregular, not being free from bleeding for over a week together. Has had retention of urine about every three weeks. Noticed swelling of abdomen five months ; increasing ever since, but much more rapidly during last two months. It commenced, she says, in left side of abdomen.

Present Condition.—There is a large, hard, irregular tumour, rising above pubes, an inch higher than umbilicus. On left side there is a prominent knob, about the size of a walnut. Tumour can be moved from side to side. It projects forwards considerably, more to left of umbilicus than to right. No bruit to be heard over it.

Per Vaginem.—Cervix is felt to be high up. Os not patulous.

February 23.—Operation (sub-peritoneal hysterectomy performed), with the assistance of Dr. Purcell and Mr. Barton. Patient placed in Trendelenburg position.

March 30.—Discharged. Well.

Case II.—Case of Fibro-Myoma of Uterus. (Oöphorectomy.)
Recovery.—J. T., aged 37, a widow, was sent to me by Dr. Shaw to the Cancer Hospital on February 24, 1897. Her occupation is that of a machinist and needleworker. She complains of continual uterine bleeding, and pain in the abdomen, chiefly referred to the hypogastric region.

Patient's Family History.—Has always been rather delicate. Menstruation up to onset of present illness regular, but always excessive. Has never been pregnant.

History of Present Condition.—About six years ago menstruation commenced to be excessive, lasting longer each time, so that she had to stay in bed a week or more at each period. She also began to have pain at the lower part of abdomen, across lower part of back and thighs.

These symptoms have gradually increased in severity, so that during last eight months she has been obliged to stay in bed altogether. Patient has been under medical treatment for the past twenty months. The chief part of the time has been spent in hospital. Dr. Shaw, who asked me to take her under my care, as he had been out of health, and obliged to leave town, suggested that it might be a fitting case to remove the appendages. In this I agreed with him, and the result proves his judgment was sound.

Present Condition.—Very anæmic and rather thin; slight bleeding at intervals; constant feeling of sickness. A smooth uniform oval swelling occupies hypogastric region, corresponding in size and position to the uterus at about the third month of pregnancy.

Per Vaginam.—Cervix normal. Os not patulous. Bimanually, tumour is found to be the uterus, and it seems to be more enlarged anteriorly than posteriorly, as it can be felt in anterior fornix but not in posterior. Patient expects her next menstrual period to commence on March 5.

March 7.—Slight follicular tonsillitis. No menstruation.

March 16.—With the assistance of Mr. Barton I performed the operation of oöphorectomy. Patient placed in Trendelenburg position.

April 15.—Discharged well, having been up daily for a fortnight.

Case III.—*Case of Fibro-Myoma of Uterus. Double Pyosalpinx. Sub-Peritoneal Hysterectomy. Recovery.*—E. S., aged 39, married, was admitted March 3, 1897, complaining of uterine bleeding.

Family History.—One sister died of phthisis.

Patient's History.—Slight miscarriage eighteen years ago, shortly after marriage. Was quite healthy up to twelve years ago, when she had "a tumour in abdomen." It did not trouble her much, and she wore a belt, which relieved her of any slight discomfort caused by its pressure. It gradually increased in size up to three years ago, since when there has been no further increase. Menstruation was not

affected. Micturition and defæcation were not interfered with. Seven years ago, and again four years ago, she was treated for "internal abscesses," which discharged through the womb (? pelvic cellulitis).

History of Present Condition.—About one month ago she began to pass a large quantity of blood and clots from vagina, accompanied by pain in lower part of abdomen and back.

Present Condition.—Very anæmic. Abdomen is occupied by a large, firm, irregular tumour, which extends quite across the abdomen one inch above level of umbilicus. It is higher on the right side. It appears to rise from pelvis, and is only slightly movable, and extends into both iliac fossæ.

March 10.—Has been losing blood (some quantity) last few days, and pain in abdomen has been troublesome. Blood contained clots. There is a soft blowing systolic murmur heard over base and apex of heart, not conducted into axilla. Loudness diminished when patient sits up (? hæmic).

March 23.—Operation was to have taken place to-day, but as patient has been losing blood freely, and is very exhausted, it is postponed.

March 26.—Bleeding still continues. Ergotine injected deeply in buttocks once daily. Patient is easier, but is still very anæmic.

April 4.—Patient's general condition more favourable. Bleeding has now ceased, but she is in a very critical condition, being propped up in bed. Her pulse was so feeble, and she was so blanched, that I hesitated about operating, but feeling that another attack of hæmorrhage might still further reduce the strength of patient, with the assistance of Dr. Purcell, on April 6 I operated, removing the whole growth. On separating the tube on the right side a quantity of foul pus escaped. This was swabbed out, and found to come from the tube, which was much dilated. A similar condition of things was found on the left side, and, as you

will see, both tubes have been much dilated. Notwithstanding this, the patient bore the operation well, and made a good recovery. So reduced was she before the operation that I had Mr. Barton ready with transfusing apparatus in case of her pulse failing. The patient was placed in Trendelenburg position.

She has been up for two weeks, and only remains in the hospital awaiting a letter to go to a convalescent hospital.

Case IV. Large Fibro-Myomata of Uterus, complicated with Pregnancy. Pan-Hysterectomy. Recovery.—Mrs. P., aged 37. No family history of tumour, &c. One child, 10 years of age. None since. Married to present husband about six months ago. Has seen period once since.

Dr. Bellis, of Holland Park Avenue, was sent to see her the middle of March. She was then suffering from distressing vomiting. On examination, he found a large tumour occupying the abdomen, which had increased very much of late. She believed herself to be pregnant, a fact which Dr. Bellis confirmed, owing to the condition of her nipples, &c., but the size of the tumour evidently pointed to this existing outside the pregnancy. The patient suffered a good deal from irritation of the bladder. Dr. Bellis asked me to see the patient with him on March 21. I found a large, smooth tumour, extending to about two inches above the umbilicus, and situated somewhat to the left of middle line. *Per vaginam*, another growth was felt, pushing down in the posterior fornix. The os was difficult to feel and was high up in the front of last growth. The vagina was full of a dark grumous fluid, the colour of coffee-grounds, and evidently blood-stained, which was escaping from the os.

By auscultation over abdomen the foetal bruit was thought to be heard at a spot between the large tumour in the abdomen and the other tumour in the vagina.

The question of treatment was discussed, and in view of the difficulty of reaching the os, and the extremely high rate of mortality attending any attempts at abortion, I decided to negative this form of treatment. Next the ques-

tion of leaving her alone and awaiting further development was discussed. This also was not thought desirable, owing to the reduced state of the patient, the pressure of the tumour on the bladder, the possibility of the foetus being dead, and finally, owing to the large growth which existed in the posterior as well as the anterior wall of the uterus, the chances of the pregnancy extending to its full term being very remote, and the great difficulty and danger to the patient if matters were left alone.

We then decided to recommend removal of the whole organ, my advice being strengthened by the good result which followed a similar operation in another patient, the specimen of which I showed to this Society a year or so ago.

The patient was admitted into a home on March 22, and on the 25th, with assistance of Dr. Purcell and Mr. Barton, I removed the whole uterus. Patient was placed in Trendelenburg position.

The patient had not a single bad symptom, and returned to her home on April 18, or twenty-four days after the operation.

Case V.—Large Fibro-Myoma of Uterus. Pan-Hysterectomy. Recovery.—Mrs. S., aged 35. Four children; youngest five years old. First noticed a swelling a year ago. Suffers much from menorrhagia. Tumour latterly growing very quickly. Suffers from irritation of bladder.

The tumour extends to about an inch above the umbilicus; freely movable. The os can be with difficulty reached, being drawn up out of the pelvis.

Pan-hysterectomy was performed by me, with the assistance of Dr. Purcell, on February 22. Patient made an excellent recovery.

The PRESIDENT observed that Mr. Jessett's cases showed very well the varieties of treatment applicable to cases of myoma. When the tumour was small, oöphorectomy was generally sufficient. The association of pyosalpinx with myoma was not very common; it was remarkable how, in

these cases, even if the pus-tubes ruptured into the peritoneal cavity during the operation, no bad effects followed; he believed that flushing, in such cases, increased rather than diminished the risk of infection of the general peritoneal cavity. The case of myoma with pregnancy was very interesting; if the patient had been allowed to go on to full term she would probably have been placed in great danger from complications. He had had one such case at full term in which he did a Porro's operation, leaving a part of the tumour below. The result was successful, and he had lately seen the mother and her child, both strong and well.

Dr. PURCELL said that these cases showed that Mr. Jessett did not employ pan-hysterectomy in all cases; for the method here adopted was Schröder's retro-peritoneal plan. In the third case, with pyosalpinx, the patient had no sign of temperature during her stay in hospital; so there was nothing to forewarn one as to the presence of pus. The pelvis was flushed and dry-cleaned; but no drainage was used. A leading operator, who, so far, had mainly employed the extra-peritoneal method, had said to him the other day, "I think we must sooner or later come to pan-hysterectomy, in the treatment of myoma." The convalescence, which was long after the extra-peritoneal method, was shortened after Schröder's operation; and shortened still more after pan-hysterectomy. Undoubtedly, myomectomy will be the ideal operation for fibroid tumours, and the next advance in the treatment of fibroid tumours will be the acceptance of early operation, with the view of substituting myomectomy for hysterectomy in women of child-bearing age, in cases having only a small number of fibroid nodules, ensuring a low mortality. Myomectomy of the vaginal route is not practicable except for small fibroids, and even when the tumours are small. Unless the tumour is sub-mucous or arising from the uterus low down, the operation is best done through the abdomen. The advantage which pan-hysterectomy has over supra-vaginal amputation is that in certain cases the cervix is diseased, and in such cases it

is best to remove it, for it may be granted that if the cervix is not removed, at times it becomes the seat of cancer. Dr. Purcell has given up using silk as suture material, and now uses catgut, as he found some of his cases were annoyed until the silk sutures were discharged. The four main arteries should each have a separate ligature of fine silk placed upon it, in addition to the mass ligature of catgut, closing the cervical stump with a few catgut sutures. The peritoneal wound is closed with a continuous Lembert catgut suture.

Dr. C. H. F. ROUTH, while congratulating Mr. Jessett on his cases, took exception to one of them—that of pregnancy. He believed the idea was current that these cases ought to be operated on at once; his own view was that it was usually better to wait. Thus, he had a case of a lady who had a very large fibroid in the lower part of the abdomen. Dr. Herman had seen her, and diagnosed myoma probably plus pregnancy. In examining the abdomen, he could find no definite signs of pregnancy; but on listening with the vaginoscope, he could hear the placental souffle; and on examining the breasts, found secretion in them; so the diagnosis was plain. He advised waiting. She went on all right for two months; then one day, whether the result of extra activity on the part of the child, or her, he could not say; but he found that the child and the tumour had changed places, the child coming to lie below the tumour. The confinement took place naturally; the tumour then got smaller. What happened in one case might be expected to happen in another; and on this account he advised waiting.

Dr. GODSON agreed with Dr. Routh that one should hesitate to operate too soon. A year ago he saw a case, which seemed to be a retroversion of the gravid uterus; there was a firm round mass in the pouch of Douglas. He gave her a note to Dr. William Duncan, of the Chelsea Hospital for Women; he agreed with the diagnosis, and endeavoured to raise the mass behind, under an anæsthetic, but without

success. He then decided to induce abortion, and passed a sound; but she did not abort. He then came to the conclusion that she had a fibrous tumour behind the uterus, and performed laparotomy, and removed the ovaries and tubes. Still she did not abort, but went on to full term, and was delivered naturally of a healthy child. This remarkable case showed very well the tolerance of the uterus to operative interference, and he hoped Dr. Duncan would put it on record.

Dr. HEYWOOD SMITH asked Mr. Jessett whether cases of the sub-peritoneal operation differed in their convalescence from cases of pan-hysterectomy; and also whether there was any rise of temperature after operation in the former. He could not agree with Dr. Routh that what happened in one case could happen in another; it would depend on the position of the tumour. His view was that when pregnancy was complicated by myoma, the case should be allowed to go on, as long as the mother's health was not threatened, for the sake of the child.

The PRESIDENT remarked that some cases of myoma went on to term without symptoms. He had had one case in which a patient with a fibroid had six children; the tumour got smaller each time between the pregnancies, so that she would not consent to any operative interference.

Mr. BOWREMAN JESSETT, in reply, said that in his case, Case No. IV., the patient was worn out by constant vomiting; and besides, the anatomical conditions of the uterus and tumour would not have allowed the case to go on to term. The results of producing abortion in such cases were very bad; about 75 per cent. died of septicæmia. Further, he thought that in this case he would not have succeeded in emptying the uterus; a part of the placenta would have been left behind. And as the tumour was growing rather fast, and her symptoms were bad, he felt he could not leave her. With a simple case he would let the patient go on to term; with multiple myomata he felt there would be risk in doing so. The mortality after

removal of the whole uterus in the early stages was about 10 per cent.—about the same as uncomplicated hysterectomy. The general rule he adopted in such cases was to consider the mother primarily, the child being of quite a secondary importance.

ON THE VALUE IN [(a) REAL, (b) SUPPOSED] ABDOMINAL MALIGNANT DISEASE OF EXPLORATORY LAPAROTOMY *per se*. By HERBERT SNOW, M.D.Lond., &c.

The point which has struck me in the cases I have the honour of bringing under the notice of the Society, and on which I venture to solicit the opinion of its members, is the marked improvement which appears commonly to follow a simple exploratory incision in cases of irremediable abdominal cancer.

Case I.—Elizabeth H., aged 49, widow. Admitted October 15, 1890, with an oval tumour as large as a hen's egg halfway between the left Poupart's ligament and the umbilicus; hard; fixed deeply, resonant on percussion. It had been noticed three months, was very tender on pressure. Most pain was felt in the loin. There was history of pain after food, and vomiting, with progressive emaciation for eight months. No melæna or hæmatemesis. The bowels had always been rather loose. No solid food had been taken for the previous three months. Nothing abnormal could be felt by the vagina or rectum.

The patient was kept in hospital until January 31, 1891, when she began to get discontented that nothing was done and an exploratory incision was performed at her own urgent request. She had been steadily going downhill, and though regarding the tumour as malignant, we were uncertain of its local site. It proved to be a very advanced carcinomatous infiltration of the entire sigmoid flexure, firmly fixed. Nothing, of course, could be done, and the wound was closed in the usual way. The immediate improvement was most striking. The patient took solid

food with enjoyment, began to gain flesh, on February 6 stated that she "felt very well," and seemed altogether transformed from the sallow, haggard-looking creature she had previously been. This favourable change, however, was sustained only until March 21, when she began again to vomit, quickly fell off, and succumbed in the following month.

Part of this temporary amelioration might reasonably have been attributed to this mental satisfaction ; hardly so, I think, with the next case.

Case II.—Mrs. H., aged 53, in April, 1893, had a large scirrhus growth, as big as an orange, in the right breast, with enlarged axillary glands, sternal prominence, and other well-marked signs of marrow-infection, the disease having lasted two years. In February, 1895, a small recurrent nodule was removed from under the cicatrix. In the following May she was found to have a large nodular mass, as big as a child's head, in the abdomen. It was very mobile, and though without much hope of benefit, an exploratory incision was made at the patient's urgent wish. A soft, vascular, evidently rapidly-growing, carcinomatous deposit was found in the omentum, almost enveloping the transverse colon. It is hardly possible to doubt that in the ordinary course of events ascites would have followed very quickly, and the patient could not well have lived beyond three to six months. She quickly recovered, however, from the laparotomy, and then went about almost as usual, attending as an out-patient, with occasional temporary admission into hospital, until the past autumn. She succumbed in October, 1896, being to the last free from ascites, and with the abdominal tumour shrunken, and seemingly atrophied.

The two cases following are male ; and if an apology were needed for referring to them before this Society, I conceive that it would be in the more effectual effacement of the mental equation ; with which one has to reckon in gauging the value of almost any operation on a woman.

Case III.—William F., aged 58, plasterer. In November, 1895, a solid tumour, 2 ins. in diameter, and about the same distance above the umbilicus, to left of the middle line, descending on inspiration, dull on percussion, tender on pressure, rounded, mobile ; duration seven months ; emaciation, and occasional vomiting. On exploration, extensive deposit of carcinoma along whole posterior surface, and most of the greater curvature of the stomach. On February 3 the man professed himself greatly improved by the operation ; and so appeared in every way. He went home, at his own wish, on February 24, and was not seen again.

Case IV.—James G., aged 64, sawyer. Admitted June 9, 1896, with a large, very hard mass, size of "cocoanut," under right rectus, dating apparently from a fall in the previous summer, and so of a year's duration. It was slightly mobile, extended from the umbilicus to $1\frac{1}{2}$ in. from the anterior superior iliac spine, and was 3—4 in. in diameter. An incision 4 in. long was made in the linea semilunaris, and after passing through the parietes, I found myself dividing a gristly material, obviously malignant, and widely infiltrating the abdominal muscles. In view of the huge tumour, and the evident impossibility of radical extirpation, I did not proceed further. The man went home, at his own request, on July 8, and has since attended regularly as an out-patient. The growth has not since undergone the slightest increase in size. The man has not a single bad symptom, looks particularly robust, and does his work as usual.

Case V., though not involving laparotomy, may be casually referred to, as dealing with an abdominal organ, and illustrating the same principle. An elderly woman had severe renal symptoms, and her urine was full of pus. With the assistance of my colleague, Mr. Jessett, I made an exploratory incision in the loin, and after dividing the superficial muscles, cut down into a hard, almost cartilaginous material, which bled profusely. We both concluded that there was a malignant lesion of the kidney,

that there was general infiltration of the retro-renal tissues, and that it was useless to proceed further. The wound was accordingly closed, and quickly healed. The woman got well and left the hospital, with all her trouble gone, and her urine quite free from pus. The kidney itself had not been reached.

Case VI.—Olive B., a gipsy, married, aged 48. On October 24 last, exploratory laparotomy for a large, hard, rounded tumour in right hypochondrium, of five months' duration, thought to be an enlarged gall-bladder, and then found to be a malignant growth, deeply seated behind that organ. Since then a considerable improvement in the general health and appearance. On November 27 the woman told me she felt better, and "more free from pain than she had been for months." She speedily left hospital, and has since succumbed.

Last week at another Society I had the pleasure of hearing a very valuable paper by Dr. Leonard Bidwell, on thirty-one cases of exploratory laparotomy for various maladies, mostly non-cancerous. Two, however, in which there was a malignant lesion, bore so strongly upon my present point that I asked Mr. Bidwell to come this evening and narrate them. This he was unable to do, but he has kindly favoured me with a proof, and with permission to quote it. He says :—

"Another group of cases to which I would draw attention is that of two cases of diffused peritoneal cancer, which were greatly benefited by simple opening of the abdomen. In the following cases all the abdominal pain was lost, and the patients expressed themselves to be much benefited by the operation.

"*Case I.* (No. 4 on list).—D. B., aged 67, was admitted with abdominal distension, pain in the hypochondriac and epigastric regions, and vomiting. The stomach was dilated to below the umbilicus. An incision was made above the umbilicus and a pint of yellowish clear fluid escaped. A large growth was found at pylorus, and

secondary growths in the bowel and parotid peritoneum. The stomach was not greatly dilated. The wound was closed. There was great improvement in the patient's condition, the sickness almost disappeared, and he took food much better. He got up fourteen days after the operation, and was discharged fourteen days later. The later history of case is unknown.

"*Case II.* (No. 5 on list).—Mrs. M., aged 53, was admitted into the hospital on June 20, 1895, under Dr. Ball. She had enjoyed good health till one year previously, when she began to feel weak and had wasted since. Five months before admission she began to notice pain in the lower part of the abdomen, and for three months the pain had been chiefly in the epigastric and right hypochondriac regions. The pain was not affected by food, and there was only occasional vomiting. The bowels were regular. On examination the abdomen was distended, and free fluid could be detected in the peritoneal cavity. A hard mass could be felt to the right of the umbilicus.

"On June 24, the abdomen was opened in the middle line above the umbilicus and a quantity of clear serous fluid escaped. The gall-bladder and pylorus were exposed, both of which were found to be healthy, but the liver was enlarged and some secondary cancerous growths were seen on its surface. A large mass of malignant disease was felt in the region of the cæcum, and numerous secondary growths in peritoneum and omentum. The abdomen was closed without any further operation, and the patient made a good recovery, being discharged from the hospital three weeks after the operation. She lost all her abdominal pain, and there was no re-collection of ascitic fluid for three months. She also regained some of her lost weight. She attended as an out-patient for six months, but was then lost sight of. There is no question that the operation checked the growth for a time at least, and gave complete relief to her pain."

I have reason to believe that other members, of the

Society have met with like experiences, but have not thought it worth while to publish them. I venture, therefore, to bring forward the preceding, in the hope of eliciting similar cases. Mine appear to indicate a certain degree of analogy between the behaviour of the peritoneum in malignant conditions to what we notice when it is incised for tuberculous disease. The abdomen is opened, ascitic fluid withdrawn, the viscera sponged, a very small portion of the actual deposit being thus removed, and the remainder left untouched, yet the patient subsequently becomes, and remains, perfectly well. So in irremovable and not too far advanced malignant deposits, the manipulations involved by simple laparotomy may, and, I think, generally will, be followed by a withdrawal of blood from the diseased to the healthy tissues, by an improved vitality of the serous membrane, and occasionally even by a material arrest of development in the tumour itself, which permits the treatment by *opium* and *cocaine*, whereon I place the greatest reliance in all early instances of malignant disease, to be brought to bear.

If the experience of others supports my view, I would respectfully hint that the temporary improvement following the more severe and protracted operations on the abdominal viscera—such, for example, as gastro-enterostomy—may be in part due to the peritoneal manipulations involved, and so may be sometimes secured without the hazard of a graver measure.

There is, of course, another strong argument in favour of an almost routine resort to laparotomy in instances of abdominal tumour formation, viz., the uncertain nature of so many “lumps” therein, and the fact that those with the widest experience occasionally err in their diagnosis. There is, in fact, always the possibility of something turning up widely different from what one expects, and perhaps of a remediable nature. Two cases in point occur to me. The first, many years since, when I was a student, is that of an elderly man who came into hospital with a huge tumour, growing forwards from under the left lower ribs. It was

put down to an enlarged spleen, and a very well-marked notch in the anterior border was pointed out to us as proof positive of the fact. When the patient died we found a sarcoma of the descending colon, the spleen being wholly unimplicated.

The second is that of a woman, who a year or two since came into hospital under my colleague, Dr. Purcell, with a large mass, apparently hepatic, descending below the umbilicus, and presenting that boggy, semi-fluctuating, mixed solid and fluid consistence which the older text-books tell us is indicative of an encephaloid carcinoma. The woman was almost moribund. I believe she lived a fortnight, and we all regarded the lesion as malignant beyond a doubt. At the autopsy this proved to be an enormously distended gall-bladder, which occupied the whole surface area ordinarily occupied by the liver, in such wise that the latter was entirely hidden from view when the abdomen was opened. It was pushed upwards and backwards towards the pillars of the diaphragm, was somewhat atrophied by the extreme pressure, but its tissue was healthy.

The PRESIDENT remarked that all operating surgeons must have had the same experience as Dr. Snow. He had himself operated on cases where, on opening the abdomen, he believed he had to do with ineradicable malignant disease, and had closed the abdomen without proceeding further; yet the patients had got quite well. In one such case, the operation was in the region of the gall-bladder; before she left the hospital she was already better; and now, several years after, she remained quite well. Only last week he had a somewhat similar case, but bearing the previous case in mind he proceeded with the operation; he found that the tumour was an enormous gall-bladder, from which he removed eighty stones. In another case the patient had ascites; and on opening the abdomen he thought there was malignant disease. The patient got well, and he now thought the case had probably been tuberculous. A few months ago he operated on a man with what seemed to be sarcoma of

the ilium ; since the operation, the tumour had diminished in size by more than one-half, and he now thought it was probably inflammatory. Increased experience would, he thought, show that many of these cases were not malignant.

Dr. CLEMENT GODSON related the case of a lady who consulted the late Sir Spencer Wells ; he told her that she had an enlarged spleen, which ought to be operated upon at once. She deferred operation, and came to see him ; he found a large, roundish tumour on the left side, which he diagnosed as either kidney or spleen. He advised waiting. She then came under the care of Mr. Meredith, who advised operation. This was agreed to, and he assisted Mr. Meredith. On opening the abdomen, a large firm mass was found ; it was thought to be malignant, and it was agreed to close the abdomen without proceeding further. The patient was now quite well.

Dr. MACNAUGHTON-JONES thought the main point was that most of these cases were not malignant. Dr. Snow stated that the good effects were specially seen in malignant cases. Now, if it were held that these cases *were* malignant, then he demurred ; although he admitted that a temporary improvement might follow, he did not believe that in true malignant cases any permanent cure could be hoped for. In one case he saw, there was a doubt as to the nature of the tumour—whether it was ovarian, or not ; she was tapped, but the fluid returned. He advised that the fluid should be drawn off, and an exploratory incision made. A hard mass in the neighbourhood of the lobus Spigelii of the liver was found, and the abdomen was closed. The patient had since married, and borne children. He agreed with the President that cases in which a cure followed were probably either inflammatory or tuberculous.

Dr. PURCELL had a case in which there was an enlarged mass in the left iliac region, and ascites ; he might observe in passing that he had never seen a case of malignant disease involving the peritoneum in which there was not ascites. He opened the abdomen with the view of doing

some operation. He found a tumour of the bowel, not occluding it, but too adherent to do anything. So he closed the abdomen. The man made a good recovery, and remained well eighteen months after.

Mr. BOWREMAN JESSETT said that nothing was more difficult than the diagnosis of these abdominal cases. He thought that the title of the paper was somewhat a misnomer, because Dr. Snow had not the opportunity of confirming in all the cases whether the tumour was malignant or not. In one case he (Mr. Jessett) saw a lady with a large abdominal tumour; she had vomiting and watery motions. The physician under whose care she had been diagnosed cancer of the liver. He, in consultation with Mr. Jessett (and Dr. Ramskill also saw her), confirmed the diagnosis. When he (Mr. Jessett) saw her, he thought he would try a plan he was in the habit of adopting before coming to a definite conclusion; a copious sweet-oil enema caused that tumour to come down into the bed-pan. He had several times been called to see cases thought to be cancer of the bowel, and in one or two of these the same treatment had led to a similar result. In such cases, the same improvement would have possibly followed abdominal section. Dr. Snow had suggested that gastro-enterostomy might be supplanted by a simple cœliotomy, but he did not think that equally good results would follow.

Dr. ROUTH thought that there was often no harm in making an exploratory incision; for, in tuberculous cases especially, a cure might follow. They did not know how this was brought about, it might possibly be by the action of the air. Dr. Greig Smith had an experience in three cases similar to that recorded by Dr. Snow, and so had Mr. A'Doran.

Mr. J. WALKER-SMYTH said he had had two cases similar to those of Mr. Jessett; in one, an enema was given, with the same result; the other was the case of a man with a lump over the pubes; with the catheter a quantity of urine, containing pus, was drawn off; the tumour disappeared, and the man got well.

Dr. HERBERT SNOW, in reply, said that his paper involved two points : (a) The advisability of an exploratory incision under conditions of doubt, because often something was eventually found quite different from what had been expected ; (b) The improvement which had been seen to follow exploration in lesions unquestionably cancerous. The President's cases fell into the first category. In those of the second class, the question he wanted to raise was whether they might not usually count upon a more or less material amelioration from simple peritoneal incision and sponging. He thought that Dr. Godson's case, with many others on record, could hardly be explained on the supposition of a diagnostic error ; that there might reside in the peritoneum some subtle physiological force hitherto unsuspected. If Fellows of the Society would in future scrutinise their results in the light of possible improvement to follow, and not in that of the traditional impotence towards cancer, inculcated by Walshe and the older writers, he was convinced that valuable additions to our practical knowledge would be obtained.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, JUNE 10, 1897.

PROF. A. W. MAYO ROBSON, PRESIDENT, IN THE CHAIR.

PRESENT : 39 Fellows and Visitors.

The following gentlemen were elected Fellows of the Society : — J. Astler, M.B.Edin., Adelaide, Australia ; J. Stevenson, M.D.Glas, Glasgow ; H. M. Macnaughton-Jones, M.B., R.U.I., London.

THE LATE MR. GREIG SMITH, F.R.C.S.

The PRESIDENT feelingly referred to the great loss the medical profession had sustained by the unexpected death of this brilliant surgeon ; and added that he, like many others, had at the same time lost a highly valued friend. Although Mr. Greig Smith was not a Fellow of the Society, the nature of his work brought him into close sympathy with the Gynæcological Society.

It was proposed, seconded, and carried unanimously : "That this Society records its deep regret at the death of such an illustrious and esteemed member of the profession ; and that the President be requested to convey this message of condolence to Mrs. Greig Smith."

SPECIMENS.

Dr. MACNAUGHTON-JONES showed a specimen of renal tumour ; nephrectomy ; recovery.

The kidney I showed was removed by nephrectomy on May 1, and the following are brief notes of the case :—

The lady was married, and aged 40. First pregnancy at

39. Since the labour the catamenia have been irregular, and in the intervals there was occasionally some brown discharge, which lasted about twelve days. The last catamenial period was in March of this year. She had been under treatment since her confinement for an enlarged and mobile kidney. She was subject to occasional attacks of sickness, and there was a gradual but steady decline in her general health, attended by loss of weight. In June, 1896, being then under observation, there was noticed a constant nightly exacerbation of temperature, the daily range varying from 98° and a few points, to 100° and 101° . As there was then a suspicious discharge from the uterus she was curetted, and this step appears for some time to have had a slight beneficial effect on the temperature. But all through 1896, and, indeed, up to the time of the operation, this nightly exacerbation of from one to two degrees continued. The patient was under the observation of her medical attendant in the latter part of 1896 and the early months of this year, and his opinion, expressed in December last, was that the tumour was undoubtedly an enlarged and displaced kidney, probably disorganised, not of any use to her, and possibly a source of danger, though the grounds then of recommending an operation were not sufficiently strong. There was also the uncertainty as to whether her condition of health actually and solely depended upon the condition of the kidney. In February of this year, when he again saw her, he was of the same opinion, though he suspected that there was fluid in the pelvis of the kidney, and from the continued fever, possibly pus. He recommended her coming to England for observation, and, probably, exploration of the kidney or its removal. She never at any time had hæmaturia.

I saw her on April 23. The urine roughly examined was faintly acid, specific gravity 1011, with a very faint trace of albumen. On examination I found the uterus and adnexa healthy. There was a tumour protruding in the right inguinal, and extending back to the right lumbar

region, with an irregular and notched anterior edge, solid to the feel and painless. The patient was greatly emaciated, and subject to occasional attacks of sickness, and for the last few weeks was becoming worse. I felt that the operation of nephrectomy would give her the only chance, and immediately recommended operation, but before a final decision I had a consultation with Dr. Freyer and Mr. Bland Sutton, who were emphatic as to the advisability of this step. For myself, I feared that the growth was sarcomatous, and I think that the opinions of the others tended in the same direction. On May 1, Mr. Bland Sutton affording me his valuable assistance, I removed the tumour by Langenbuch's operation. The left kidney was examined and found normal in size; the peritoneum was divided for the second time along the posterior border of the kidney, which was carefully freed from its capsule, and the adhesions which bound it posteriorly were separated by the finger and curved scissors, the vein was ligatured separately, the ureter and arteries were tied *en masse*, the peritoneal edges of the sac were brought together by fine silk interrupted suture, a drainage tube was passed from it through the loin, and the abdominal incision was closed by three layers of sutures. Ten ounces of urine were passed on the day of operation, eleven the following day, fourteen on the third day, and twenty on the fourth day. The temperature during the first week only once reached 99°, and the recovery was uninterrupted. She is greatly improved in every respect, having gained flesh and appetite, and never had a single untoward symptom or complication. The report of the urine, taken on the fourth day after operation, and the pathological report, macroscopical and microscopical, of the tumour, made for me by Mr. Targett, are as follows :—

Analysis of Urine.—Reaction : Hyper acid, sp. gr., 1025 ; albumen, a trace ; blood, absent ; sugar, absent ; urea, 2·85 per cent. (= 12·47 grs. per oz.) ; uric acid, 0·092 per cent. (= 0·40 grs. per oz.) ; ratio, 1 : 31. Microscopical Exam-

ination of Deposit : Chlorine, 0.238 per cent. = sodium chloride, 0.392 per cent. (1.71 grs. per oz.) The centrifuged deposit (after removal of urates by warming) contained abundant crystals of free uric acid and a few granular tube casts. Leucocytes were present in more than normal numbers, but there was no actual pus. Blood cells were absent. The epithelium present was of the ordinary squamous form, and no fragments of growth could be found.

Report on the Specimen Exhibited. — The specimen consists of an enlarged right kidney, weighing $26\frac{1}{2}$ ozs., and measuring 7 inches in length, and 11 inches in its greatest circumference. The enlargement is due to the presence of a new growth, which involves the lower two-thirds of the organ. This growth has a nodular surface, and is closely adherent to the fibrous capsule of the kidney, though it has not perforated the capsule. The hilum shows that the renal veins and pelvis are plugged with new growth. The cut surface shows that the renal substance is entirely replaced by growth at the lower end of the kidney. Microscopically, the growth is a very soft and degenerated carcinoma.

Microscopical Report.—The section includes the edge of the growth and the adjacent renal tissue. The latter shows much interstitial nephritis, with atrophy of the glandular tubules and of the glomeruli. There are also groups of round cells scattered through the cortex.

The growth itself is a carcinoma of the "convoluted tube" type, that is to say, it reproduces the epithelium and general arrangement of the convoluted tubules more or less distinctly. Some of the alveoli have a lumen, and are even dilated into minute cysts, which present simple villous ingrowths or papillomata. The majority of the alveoli are, however, solid, and are separated by thin strands of fibrous tissue traversed by capillary vessels. A noteworthy feature of the growth is the marked fatty degeneration of the cells; this is shown by their empty, unstained condition, due to

the removal of the fat in the course of preparation of the sections. For the same reason the mounted specimen in spirit becomes "milky," in spite of repeated changing.

Mr. BLAND SUTTON said that both clinically and pathologically the case was one of great interest to him. He felt he must congratulate Dr. Macnaughton-Jones, both on the successful issue of the operation, and also on the enterprise he had shown in having the specimen properly examined and reported upon. He had long been interested in conditions of this kind. When he wrote his book on tumours, some years ago, he wondered at the chaotic state of knowledge on the subject of kidney tumours; they were mostly put down as "malignant," without any attempt to differentiate them. In reality there were three distinct kinds of malignant tumour of the kidney: (a) Carcinoma, such as the present specimen; (b) Sarcoma, arising in the connective tissue of the sinus of the kidney—this was the source of the majority of sarcomata of the kidney in infant life, where the growth was generally bilateral, and also of many cases in adult life, where it was more often unilateral; (c) Sarcoma associated with accessory adrenals lying beneath the capsule of the kidney; this was probably the least malignant form. It was long before he came across a true carcinoma of the kidney. Now it was characteristic of carcinoma that it mimicked the structure of the gland in which it was found; this held true of the liver, the ovaries, the breast, and the uterus; and he argued that it ought to hold true of the kidney; but this was such a highly specialised gland that he doubted if the argument would prove valid. However, it turned out to be the case, and he now knew of three specimens, namely, the one before them, one that he had in his own possession, and one recorded and figured in a French book. Hence the great interest of this case to him. He thought they ought to ask Dr. Macnaughton-Jones to keep a careful watch on this case, with special reference to the after-history. For most of these cases proved rapidly fatal from recurrence, and the point they wanted to



x 60.

CARCINOMA OF THE KIDNEY

Vide report p. 179.

know was which kind of malignant tumour of the kidney was the most deadly in this respect.

Mr. FREYER said he was very pleased to see the specimen and to hear the paper of Dr. Macnaughton-Jones, and the classical speech of Mr. Bland Sutton. He had seen the case in consultation, and he found a tumour of the right side, convex on its outer border, and apparently nodulated in front. He believed that this latter feature suggested to Mr. Bland Sutton that the tumour was possibly, though not probably, in part cystic. It was movable, and held down by its pedicle, and in its general conformation was highly suggestive of ague-cake. The conclusion was unanimous that it was sarcoma; and that operation should be done; the only question was whether it should be attacked through the lumbar region or by laparotomy. For his part he thought he would have been disposed to adopt the lumbar procedure. The result was quite successful, and when he saw patient shortly before leaving the home, she was looking at least fifteen years younger than before the operation.

The PRESIDENT observed that he had read Mr. Bland Sutton's work on tumours of the kidney with great interest, especially as Mr. Sutton's views, both then and now, differed somewhat from those to which his own experience had led him. Thus, Mr. Sutton stated that it was practically useless to remove sarcoma of the kidney in children, because it always returned so soon. Now, he had seen two cases in children, both unilateral, where he and a colleague had performed nephrectomy; one was five years ago, and the other three, and both were quite well up to the present time. His experience of sarcoma of the kidney in adults was that the disease invariably returned within a few months, even when the operation appeared to be quite successful; he had not had a case survive for a year. He had had one case of supra-renal tumour which was of special interest to him, inasmuch as there was an error of diagnosis. He was not sure beforehand whether it was

gall-bladder or kidney, and so he tried Ziemssen's test of distending the transverse colon. As the tumour rose in the abdomen he concluded it must be gall-bladder but on opening the abdomen he found he had to remove a sarcoma of the upper part of the kidney. They could not have too many reports of these cases, and he thought that every Fellow should take the opportunity of examining the microscopic specimen on the table; for though sarcoma of the kidney was not very uncommon, carcinoma was exceedingly rare.

Dr. PURCELL, referring to the method of operation, said he thought that in such a case it would have been a matter of considerable difficulty to remove the tumour through a lumbar incision. The abdominal operation presented the further great advantage that it enabled the operator to examine the other kidney, and thus avoid the serious mistake of removing the only kidney a patient may be possessed of.

Dr. MACNAUGHTON-JONES, in reply, said that two important clinical points had not been referred to by previous speakers; the first was the long-continued temperature, which caused the case to puzzle her medical attendant, a man of large experience. It was strongly suggestive of pus or of tuberculosis, but neither was found, and he thought it must be attributed to the chronic inflammation affecting the capsule. The second point was that the tumour had arisen in a previously mobile kidney, illustrating the special tendency shown by such kidneys to degenerative changes. As to the method of operation, he thought it would have been very difficult to remove the tumour through a lumbar incision, whilst Langenbuch's operation presented the advantage of affording a complete command of the pedicle, besides the advantage referred to by Dr. Purcell, that the left kidney could be explored. Mr. Bland Sutton had referred to the mortality of carcinoma, and had stated that one-third died and two-thirds recovered; his view was that these proportions should be reversed, and that the mortality was at least 60-70

per cent. A pure carcinoma of the kidney was commoner in children and in advanced age than during middle life, when it was exceedingly rare.

FIBROMA OF THE RIGHT BROAD LIGAMENT.

Dr. R. H. HODGSON showed this specimen.

Patient, Mrs. V—, aged 45, had had nine children, the last ten years ago, and one miscarriage two years ago, since which time she had been in constant ill-health, losing flesh and strength, although she had been under the daily care of two medical men during the last twelve months.

When I saw her first in the middle of January she complained of pain in the right iliac region running down her thigh and through to her back, inability to stand without feeling sick, and experiencing pressure at the top of her head and giddiness. She had an occasional discharge of dirty fluid from her vagina, and she suffered from leucorrhœa.

During the last few months her pains had greatly increased, and her menstruation, which had greatly decreased in quantity, had become painful, and most of her symptoms were worse with the approach of each monthly period. Upon examination, I found that she had mitral regurgitation, with a pulse of 80, feeble and small, but fairly regular. There was tenderness in the right iliac region, but no tumour could be felt externally. On bimanual examination I detected a swelling occupying the position of the right ovary, soft, smooth, movable and painful. The swelling appeared to vary in size at subsequent examinations. The cervix was studded with ovula Nabothi, and the uterus was displaced to the left. The temperature ranged between 99° and 102°, and the patient passed but thirty ounces of urine per day. I diagnosed ovarian cystic growth, relieving its tension by occasional discharges through the Fallopian tube. The question which naturally arose in my mind was how many of

the symptoms were due to heart disease and how many to retained pus. However, in my opinion she was then far too ill to undergo any serious operation, and therefore I decided to try to improve her general health, assisted by the relief she said she obtained by the occasional discharge. On March 24, she having improved in health, was put first under A.C.E. and afterwards under ether. I then opened the abdomen in the middle line and found the tumour now produced in the folds of the right broad ligament, with the atrophied ovary resting on that portion of the tumour which had undergone suppuration. The growth being so intimately connected with the uterus I decided that the safer operation would be the removal of the whole uterus, together with both ovaries and the entire broad ligament on the right side. This I did by first securing the ovarian arteries and then the left uterine artery and dividing the left broad ligament close to the uterus. I then made the anterior and posterior flaps from left to right, after which came the most troublesome part of the operation, namely, that of tying and dividing the right broad ligament in sections from above downwards. After complete removal of this ligament I was, by a little traction, able to draw into the vagina all the ligatures excepting three encircling three small points on the pelvic wall on the right side. The patient had quite recovered from the operation in three weeks, and is now regaining flesh and strength.

I think this case is another illustration of the advantages of complete removal of the broad ligament, where that structure is involved, rather than shelling out the tumour and trusting to drainage and granulation, a process which this woman's health could not have endured.

I should have said that a drainage tube was inserted into the vagina for forty-eight hours, and that the loss of blood did not exceed one ounce in the operation, and that the tumour appears to be a fibro-myoma undergoing inflammation, suppuration and caseation.

Dr. GRANVILLE BANTOCK said he understood Dr. Hodg-

son to say that there had been discharges of pus from the uterus ; now, in the specimen he could see no evidence that this had been the case. He should call the specimen one not of suppuration, but of cystic degeneration of a small fibroid. As to the mode of operation, he thought it was a matter of indifference whether it was done by the vagina or by laparotomy.

Dr. HEYWOOD SMITH asked why drainage was used in this case, as he did not gather that there had been any adhesions. He did not agree with Dr. Bantock that it was a matter of indifference what method was employed, for the mortality of vaginal hysterectomy was so much less than that of the abdominal operation ; and he should say, therefore, that the operation indicated here was vaginal hysterectomy.

Dr. HODGSON, in reply, said that the abdominal method was adopted because he was under the impression, before the operation, that it was a suppurating ovarian cyst, and therefore that it could be better removed through the abdomen. There were a few adhesions, but none of importance ; but he felt it was better to use a drainage tube.

ADVANCED CARCINOMA OF THE CERVIX UTERI TREATED BY CURETTAGE AND CHLORIDE OF ZINC PASTE.

Mr. H. MEEK, M.D., London, Canada, brought forward the two following cases.

Case I.—Mrs. E., born in England, aged 28, married fourteen years ; has had six children and two miscarriages ; last miscarriage in October, 1895. Was admitted to my service in City Hospital, March 1, 1896, for rather free bloody vaginal discharge. She had not suffered pain, but felt weak from loss of blood.

Examination *per vaginam* revealed an irregular ulcerating cavity in cervix extending out into upper part of vagina on left side, and some thickening apparently in

base of left broad ligament. Uterus was fairly movable. The walls of the ulcerated cervix were friable, readily breaking down under the examining finger, with free bleeding. The case was considered too far advanced for vaginal hysterectomy, and it was decided to try the chloride of zinc paste as recommended by Mr. Jessett. On March 6, under anæsthesia, I thoroughly scraped out all friable tissue and then charred the surface with the thermo-cautery and applied a strip of gauze with zinc chloride paste 50 per cent. to uterine cavity and pledgets of gauze with paste filling the cavity scraped out. Outside this I applied a piece of dry, sterilised gauze, and packed vagina with tampons wrung out of saturated solution of bicarbonate of soda. The pain following was not severe, only once requiring morphia $\frac{1}{8}$ gr. hypodermically. The vaginal bicarbonate of soda tampons were changed in twenty-four hours. The temperature began to rise at the end of forty-eight hours, and six hours later had risen to 102° F. Vaginal tampons and chloride of zinc pledgets were all removed promptly and the cavity thoroughly irrigated with 1 per cent. creolin solution. Temperature rapidly dropped to normal after irrigation. A slough, consisting apparently of remaining cervix and part of uterus above internal os, separated and came away on the fourteenth day, leaving a raw, clean, granulating cavity which cicatrised quite rapidly.

Up to present time (July 1, 1896,) there has been no return of the disease, and health of patient continues good.

Case II.—Mrs. O., born in Canada, aged 50, married; three children, no miscarriages; last child, 13 years. Consulted me May 6, 1896, for offensive, profuse vaginal discharge, with occasional bleeding and pain, from which she had been suffering for the past year, previous to which time she had enjoyed excellent health. Examination *per vaginam* revealed very offensive discharge from a hard ulcerating excavation, involving whole cervix and upper part of vagina surrounding cervix. Uterus appeared to

be fairly movable. Ulcerated excavation bled freely when touched.

From the success following the chloride of zinc treatment in Case I., I resolved to give this patient the benefit of same treatment. Accordingly, on May 13, under anaesthesia (chloroform), I thoroughly scraped out excavation and charred with thermo-cautery, and applied zinc paste pledgets and soda tampons as in Case I. The zinc chloride pledgets were removed fifty-two hours after. There had been no rise of temperature, and pulse was normal. With the exception of a dry tongue everything continued normal, with plenty of urine till end of fourth day, when urine suddenly stopped. Bladder was found empty, and from this time on till death, which took place on the seventh day, there was no more urine passed. Patient was very stout, with fat abdominal walls, and flatulent, so that kidneys could not be felt. After stoppage of urine there were no uræmic symptoms except restlessness for forty-eight hours, then a tendency to stupor and occasional slight delirium for twenty-four hours preceding death. Bowels were moved very freely every day. Temperature ranged from 99° to 100°, and pulse 100 to 106.

There was no *post-mortem*, but it is probable that the ureters had become obstructed from pressure of eschar, the result of the zinc cauterisation.

Mr. BOWREMAN JESSETT remarked that at the Cancer Hospital they had now treated about fifty or sixty cases by this method, with one death. In the early cases he had some trouble from burning of the vagina by leakage of the caustic, but now this was obviated by passing into the vagina, by means of a speculum, some lint smeared over with vaseline. He did not regard the treatment as *curative*, but it at least prolonged life and rendered it much more comfortable. In many cases, after the operation, a thickening could be felt by the rectum tracking along the broad ligament; it might be due either to extension of the growth

or to inflammatory changes, but in others there was no recurrence at present. They had about twelve cases operated on from one and a-half to two and a-half years ago, and now going about in comfort.

Dr. PURCELL said this method had given them great satisfaction; they were all cases in which, owing to the advanced condition of the disease, the uterus could not be removed, and the patients had gone back to their work in a cleaner and more healthy condition. As yet, they had no statistics as to recurrence. But it was noteworthy that even when the broad ligaments were much infiltrated, the chloride of zinc seemed to check the extension of the disease in these structures.

A CASE OF PUERPERAL PERITONITIS TREATED WITH ANTI-STREPTOCOCCIC SERUM. By R. T. SMITH, M.D.Lond., Physician to the Hospital for Women, Soho Square.

Mrs. S., aged 23, was delivered of her first child on February 7. Startled about 2 a.m. by a fire in the neighbourhood she experienced pains, and by 9 a.m. the child was born. The labour was quiet and regular; male child; breech presentation. No delay occurring in the delivery of the head, the child was born alive, and there was no injury of perinæum beyond a mere abrasion. Placental delivery easy and normal.

Evening of same day.—Pulse normal; patient very comfortable. Temperature, 99·8°.

Next day.—Temperature normal, morning and evening. No discomfort.

On the morning of the third day I was called to see her very early, as she was suffering from most violent headache. Temperature 105°. No pain or distress whatever in the abdomen. Lochia extremely moderate. Quinine was given, and temperature fell the same evening to 100°.

4th day.—Normal spontaneous action of bowels. Temperature 104°. Pulse 120, with some abdominal distension and moderate pain.

I may now state that the case had been an anxious one to me from the very first, knowing the patient was the subject of tubal mischief. She had been a patient of mine for some time, and she and her husband were also personal friends.

She had suffered from severe dysmenorrhœa which kept her in bed several days at each period, and on proceeding to dilate the cervical canal under an anæsthetic, all other treatment having failed, I found she had a distended right tube. No ill effect followed; the tube gradually contracted to a sort of twisted whipcord-like swelling, and pregnancy ensued at the third subsequent period, and was accompanied by no untoward symptoms. The question, then, was—were not the symptoms due to rupture of this tube, and if so, should not abdominal section be performed? I asked my friend, Mr. Sutton, to see her, and he advised twelve hours' waiting, as the symptoms were not by any means so alarming as the amount of fever.

Fifth day.—Temperature again 104.2° in the morning. Pulse 120. No sickness, but distension more marked, with definite solidification in left vaginal *cul-de-sac* and iliac region. I now injected 10 ccm. of the antistreptococcic serum. Temperature fell in the evening to 99.2° , and the abdominal tension was diminished.

Sixth day.—Morning temperature 103.6° . Symptoms slightly moderated. To be sure there was no uterine source of infection, I carefully syringed the uterine cavity with a weak solution of iodised phenol, but there was no *débris*, and the uterus was well contracted.

Seventh day.—Temperature 104° . Injection of serum repeated at 10 a.m. Temperature at 5 p.m., 98.4° . All this time the patient had been taking quinine, 12 grs. *per diem*. On this day an enema was given with fairly good results. Pulse 90. Tongue clean.

Eighth day.—Morning temperature normal. Resolved to give no quinine this day and wait events. At 4 p.m. I received an urgent message, the violent headache having

recurred, and the temperature was found higher than ever before— 105.4° . At 4.45 p.m. the serum, third dose, 10 ccm., was injected; by 8.30 the temperature was 102° , and at 4 a.m. the following (ninth day) was normal. In the course of that day the symptoms assumed their most violent form, vomiting set in, and copious, exceedingly offensive diarrhoea, the patient having had ziv. of ol. ricini in a mixture administered early in the morning. The temperature in the evening was again 104.2° . On this day I again asked Mr. Sutton to see her, as the symptoms were very grave, and the decision as to venturing to open up the abdomen too serious to bear on one's own responsibility under the circumstances. The pulse was 140, the patient was exceedingly restless, with sunken eyes; and his opinion was that any attempt at abdominal section would certainly be fatal, and extinguish the hope of that recovery which fortunately we do occasionally see realised in apparently the most desperate cases of peritonitis.

I therefore pushed stimulants most boldly, and gave another (the fourth) injection of serum.

Next morning, (tenth day), there was a change for the better—pulse 120, temperature 102.2° . I repeated the injection (the fifth) and the temperature fell to 100° , remaining there steadily, morning and evening for two days. Meanwhile, the patient's condition had become one of relative comfort.

Four days subsequently (the 13th) the temperature rose to 102° , this event being associated with the giving of an enema and with some recrudescence of the pain and distension. One more injection (making the sixth) was given, and from this time the progress was steadily to recovery. Twelve days subsequently she was moved on to the couch from her bed, with the result that she had a relapse, all the old signs recurring—distension, vomiting, temperature 103.2° , pulse 128. She had two more injections of serum on two consecutive days, and by the fourth day every symptom had subsided, the temperature became normal,

and has remained so ever since. It is now the fourteenth week, and for the past ten days the patient has been taking walks out of doors. There was some menstrual loss for three days in the tenth week. By vaginal examination there remains still a small collar of induration to the left of, and behind the uterus, but the bladder and rectum are quite normal and easy in function. Note, a month later : patient has had a menstrual period of five days' duration, almost painless.

Remarks.—I very much regret that a bacteriological examination was not made, at least, of the blood. The labour was conducted on antiseptic lines, there was no breach of surface beyond a mere abrasion of the perinæum, and this was immediately cleansed and dusted with iodoform and boracic powder. The lochia were never offensive, and having satisfied myself the uterus was not at fault, no vaginal treatment was adopted beyond the insertion daily of an iodoform pessary. My own judgment was and is that the peritonitis was due to leakage from a tube which had been the subject of catarrhal inflammation, not purulent, certainly at least not due to any gonorrhœal contamination. It was one of that class of cases due to traumatism, or diphtheria, or influenza, and which was formerly termed auto-genetic puerperal fever. On the whole, I think the wiser action would have been to have done abdominal section the first day, although the waiting policy seemed to be confirmed, as on the second and third days of waiting the symptoms were milder.

One thing is absolutely certain, that the serum did no harm ; and another inference I think is very strong, that the treatment by serum-therapy is worthy of trial, and that in this case it prevented a fatal issue. In another case I would give a second injection in twelve hours, repeating it every twenty-four hours. I may add the serum was injected with every precaution, the syringe being boiled each time, and the skin cleansed with carbolic lotion. Three injections were given about the epigastric region, three in the thighs,

the rest in the arm, and in no case was there any local mischief.

The PRESIDENT thought that Dr. Smith was to be congratulated on the treatment of this critical case; for though he modestly said that the serum did no harm, there was, in his own mind, little doubt that the patient would have died without it, just as would certainly have happened in some other cases that had been reported.

Dr. JOHN SHAW had had only one case in which the serum was tried; but in some respects it was parallel to that of Dr. Smith. The patient was at her first confinement; for three days all went well, and then the fever began. He adopted the serum treatment, and pushed it vigorously, starting with a dose of 20 cc.; six hours later a further dose of 10 cc. was given, and continued twice daily. The temperature seemed to be higher always just after the injection. He sent some of the vaginal secretion to the Institute of Preventive Medicine, and streptococci were found in it. It seemed to him at the time that it might be a case of influenza attacking the peritoneum; and he thought that the same explanation might be given of Dr. Scott's case. In one other case, at the influenza epidemic, he saw a sudden high temperature follow a curetting. In his puerperal case, an acute abscess formed in the left Fallopian tube; the effect of the serum appeared to be to localise the suppuration. He also gave salicin in that case, and this seemed to have more effect on the temperature than the serum. She quite recovered.

Dr. HEYWOOD SMITH said he had seen a case of puerperal septicæmia in consultation some months ago, and advised the serum. The patient got well, but he had not heard the details of her recovery. He would get these from her doctor and communicate the result to the Society. He thought that in these cases the least abrasion might form a point of entrance for the septic organisms.

Dr. GRANVILLE BANTOCK said that he quite agreed with Dr. R. T. Smith in his estimate of serum-therapy, viz., that

it did no harm. There was, however no distinct evidence that it played any important part in the favourable result. At the same time, although he totally disagreed with the current views of antiseptics and bacteriology, he was somewhat in favour of serum-therapy. But in this direction knowledge had not yet advanced far enough. An analogy was to be found in the case of small-pox and cow-pox, in both of which diseases the toxic agent was not the product of a bacillus, but a ptomaine or leucomaine. His belief was that the essence of all these cases was toxine poisoning, and that when bacilli were found, they were the result, and not the cause of the disease. He attributed to the bacilli a beneficent rôle, and believed that if they were only present in sufficient quantity they would save and not destroy the patient. Whether the serum employed for the various fevers was got from the proper source or not, he was not prepared to say; but he thought that this was the proper direction in which they ought to work, and that for the evil results generally attributed to bacilli, leucomaines or ptomaines should be held responsible.

The meeting then adjourned.

ORIGINAL COMMUNICATIONS.

TWELVE MONTHS' GYNÆCOLOGICAL WORK.¹

BY J. A. MANSELL MOULLIN, M.B., M.R.C.P.

Physician for Diseases of Women, West London Hospital; Physician to the Hospital for Women (Soho Square).

DURING the past twelve months I have had occasion to perform laparotomy for various reasons in some forty cases. I have tabulated them below in their order of sequence; their number does not permit any other arrangement.

Of this number eighteen were performed at the West London Hospital; and here let me express my best thanks to Mr. E. W. Lewis, Mr. Alderton, Mr. Keenan, Dr. Fancourt Barnes, Dr. Benjafield, Mr. Whittington, Mr. Disney Roe, and all those who have kindly sent up cases to the hospital.

The list includes sixteen cases of ovariectomy for cystic disease, all of which have done well. Some of these cases were favourable, others decidedly unfavourable, and all conditions of ruptured cyst, twisted pedicle, and dense adhesions were met with. It is very seldom, however, that the operation for removal of cystic ovaries presents difficulties which cannot be surmounted. The danger of sepsis being now a phantom, the mortality from this operation has been reduced almost to vanishing point.

We have recently heard much about the treatment of the second ovary in ovariectomy. When it is found to be

¹ Post-Graduate Lecture delivered at the West London Hospital on June 9, 1897.

No. OF CASE.	DATE OF OPERATION.	MEDICAL ATTENDANT.	NAME.	AGE.	NATURE OF CASE.	Result	REMARKS.
1	Feb. 20, 1896	Hospital for Women Mr. C. Disney Roe, Holloway	S. C.	26	Hæmatocele	R	Small intra-peritoneal hæmatocele. Right ovary and tube, containing a small ovum, removed intact. Left ovary cystic, removed same time
2	Mar. 13, 1896	West London Hospital	E. H.	37	Broad ligament cyst	D	Much shock after operation; never rallied
3	Mar. 23, 1896	Hospital for Women ...	A. McM.	26	Hæmatocele	R	Left ovary and tube bound down by adhesions and old blood clot, removed. Mucous lining of tube thickened, but no ovum discovered. Right side healthy
4	April 23, 1896	Hospital for Women ...	E. H.	27	Broad ligament cyst	R	Stitched to abdominal parietes and drained
5	April 27, 1896	Hospital for Women ...	A. C.	36	Ovariotomy	R	Large fibroid tumour of right ovary. Left also diseased and removed
6	May 4, 1896	Hospital for Women Dr. J. C. Giles, Cambridge	M. D.	29	Ovariotomy	R	Both ovaries cystic and removed
7	May 7, 1896	Hospital for Women ...	R. C.	29	Ovariotomy	R	Dermoid tumour right ovary, removed
8	May 7, 1896	Hospital for Women ...	E. R.*	29	Hæmatocele	R	Large hæmatocele right side flushed out
9	May 20, 1896	Dr. Benjafield, Ed- monton	J. C.	30	Hæmatocele	D	Hæmatocele left side. Patient in critical condition. Clot offensive. Flushed out as well as possible and closed wound. Died three days later
10	May 26, 1896	West London Hospital	E. P.	71	Ovariotomy	R	Large cyst right ovary, removed
11	May 28, 1896	Hospital for Women ...	R. C.	50	Hysterectomy	D	Large multiple fibroid. Uterine arteries ligatured. Stump sewn with catgut and returned. Died 48 hours later. No obvious cause, <i>post-mortem</i> . Liver fatty
12	May 29, 1896	West London Hospital	H. L.	38	Ovariotomy	R	Both ovaries cystic and removed
13	June 9, 1896	West London Hospital	L. U.	24	Ovariotomy	R	Both ovaries cystic and generally adherent, removed
14	June 12, 1896	West London Hospital	A. L.	41	Ovariotomy	R	Broad ligament cyst with pedicle
15	June 19, 1896	Dr. Crabb, Holloway	A. W.	43	Ovariotomy	R	Left ovary cystic
16	June 25, 1896	Dr. Cameron, Balham	A. S.	36	Ovariotomy	R	Right ovary cystic
17	June 26, 1896	West London Hospital	E. McG.	39	Hysterectomy	D	Extra-peritoneal with <i>serre-noud</i> . Clotting of sinuses at base of uterus made operation extremely difficult. Death third day. Delirium tremens

NO. OF CASE	DATE OF OPERATION.	MEDICAL ATTENDANT.	NAME.	AGE.	NATURE OF CASE.	Result	REMARKS.
18	July 4, 1896	West London Hospital Mr. E. W. Lewis, Hammersmith.	F. G.	22	Cæsarean section	R	Pelvic contraction due to rickets. Child dead. Case reported <i>West London Medical Journal</i> , Vol. I., No. 4, October, 1896
19	July 14, 1896	Hospital for Women	E. H.	33	Ovariectomy	R	Blood cyst size of egg, adherent to fimbriated extremity of right Fallopian tube. Cyst, tube, and ovary removed entire
20	Aug. 4, 1896	West London Hospital	H. S.	40	Hæmatocele	R	
21	Aug. 21, 1896	West London Hospital	R. D.	23	Hæmatocele	R	Probably intra-peritoneal and coming from left ovary, which was much enlarged by contained clot. Flushed out and appendages removed both sides.
22	Oct. 9, 1896	West London Hospital	K. N.	19	Exploratory operation	R	Salpingitis and general adhesions. Appendages too fixed to permit removal
23	Nov. 17, 1866	West London Hospital	L. H.	36	Ovariectomy	R	Cyst of right ovary intimately adherent to parietes in front, tapped, emptied and posterior wall opened. Adhesion thus got at from behind. Left ovary also cystic and removed
24	Nov. 25, 1896	Mr. Whittington, Tuxford	F. A.	33	Ovariectomy	R	Multilocular cyst, right side
25	Dec. 14, 1896	Hospital for Women	E. L.	46	Vaginal hysterectomy	R	Cancer of cervix had already invaded ligament on left side. Body not involved. Recovery uneventful
26	Jan. 1, 1897	Mr. Whittington, Tuxford	E. T.	28	Porro's operation	R	Head of child large and unable to enter brim of pelvis, which was also contracted. Child dead.
27	Jan. 22, 1897	West London Hospital, Mr. Alderton, Hammersmith	G. P.	29	Pedunculated fibroid	R	Treated extra-peritoneally with <i>serre-neud</i>
28	Jan. 29, 1897	West London Hospital	K. F.	25	Broad ligament cyst	R	Stitched to parietes and drained
29	Feb. 11, 1897	West London Hospital	E. R.	24	Pedunculated fibroid	R	Small pedicle ligatured and returned
30	Feb. 23, 1897	West London Hospital, Mr. Keenan, Putney	S. F.	17	Ovariectomy	R	Multilocular cyst of left ovary with ascites

No. OF CASE.	DATE OF OPERATION.	MEDICAL ATTENDANT.	NAME.	AGE.	NATURE OF CASE.	RESULT	REMARKS.
31	Feb. 25, 1897	Hospital for Women, Mr. Whittington, Tuxford	M. G.	48	Hysterectomy	R	Modified Schroeder's operation. Stump brought up to abdominal wound, and parietal peritoneum fixed round it. Aponeurotic structures closed over stump. Stump sloughed, much trouble and time elapsed removing slough and buried sutures As preceding case. Union by first intention
32	Mar. 4, 1897	Hospital for Women, Mr. Whittington, Tuxford	M. G.	52	Hysterectomy	R	
33	Mar. 12, 1897	West London Hospital, Mr. Keenan, Putney	M. C.	36	Ovariectomy	R	Dermoid cyst of right ovary with twisted pedicle
34	Mar. 22, 1897	Hospital for Women ...	E. C.	42	Removal of appendages	R	On left side a small cyst, probably of ovary, containing broken-down material. Tube thickened and adherent, removed.
35	Mar. 25, 1897	Hospital for Women ...	A. H.	28	Ovariectomy	R	Dermoid cyst of right ovary, with teeth, &c. Pregnant three months, miscarried.
36	Mar. 25, 1897	Hospital for Women, Mr. Lightburne, Bow Road	E. S.	30	Removal of appendages	R	Old standing and dense adhesions of omentum to parietes and front of uterus. Left ovary enucleated and removed. On right side, normal
37	Mar. 27, 1897	Hospital for Women ...	M. W.	36	Removal of appendages	R	Both ovaries firmly adherent to back of uterus, removed with tubes. A firm adhesion of sigmoid to fundus uteri allowed to remain
38	Mar. 29, 1897	Hospital for Women ...	R. B.	27	Removal of appendages	R	Uterus retroflexed and bound down. Ovaries intimately adherent and enucleated with difficulty. Tubes, chronically thickened and closed, removed, at same time. Pedicles short, operation difficult and prolonged.
39	April 1, 1897	Hospital for Women ...	S. F.	45	Hysterectomy	R	Large multinodular tumour. Treated extra-peritoneally with <i>serre-needle</i>
40	April 9, 1897	West London Hospital, Dr. Bridger, Portland Place	L. H.	22	Ovariectomy	R	Cyst of right ovary removed

cystic there cannot be any question as to the necessity for its removal. The second ovary may, however, be only very slightly enlarged and its condition doubtful. In such a case the age of the patient should determine the course to pursue. If she is approaching the climacteric it should certainly be removed ; if she is a young woman I give her the benefit of the doubt.

Included in this number are those cases of cyst of the broad ligament which were pedunculated, and so might for all practical purposes have been cyst of the ovary. Three others which were sessile, and burrowing into the ligament, and owing to the thinness of their walls or extent of their connection could not be enucleated, were stitched to the parietes and drained.

A small cyst of the broad ligament when quite free from the ovary and tube may be successfully enucleated without removing the latter. When, however, the cyst has attained any size, the tube and ovary are almost invariably disorganised by the pressure to which they have been subjected, and nothing is gained by complicating the operation in an attempt to save them.

Six cases of hæmatocele are included in the list. Most of these are recorded in a paper on "Intra-Peritoneal Hæmorrhage, in connection with Tubal Pregnancy," which I read before the Society (*West London Medical Journal*, vol ii., No. 1, January, 1897). One case, which terminated fatally, confirms me still more strongly in the belief that early operation, which I advocated in that paper, is the best treatment in all cases of hæmatocele. I had no difficulty in recognising the nature of the case, and arranged to operate the day after the next. Some days had already lapsed since the attack. At the time of operation her condition was far from satisfactory. The abdomen was distended and excessively tender, and there was evidently considerable peritonitis. I found the effused clot had become septic, and was decidedly offensive. I flushed out the cavity with an abundance of water and closed the

wound. Had the patient been in hospital I should have preferred to drain ; but do not imagine it would have made any difference in the ultimate result.

Four cases are classed under the head, "Removal of the Appendages." In all these the condition was one of chronic inflammation. Some of them were of long standing, and had undergone much treatment at various hands for pelvic pain and dysmenorrhœa, and had been in hospital repeatedly. In all the ovaries and tubes were firmly bound down and adherent to the uterus and neighbouring organs. The greatest difficulty was experienced in enucleating and digging them out. In one case, classed as an "exploratory operation," this was found impossible. The operation presents much greater difficulties than when the ovaries are removed for cystoma, and I have preferred to place them in a separate list.

Cæsarean section is represented by one case already published in the *West London Medical Journal* (vol. i., No. 4, October, 1896).

On January 1, 1897, I was sent for by Mr. Whittington to operate in a case where other means, forceps and turning, had been tried without success. The patient was a small woman, and the conjugate diameter of the pelvis further narrowed by some projection of the promontory of the sacrum. Neither the head nor the breech could engage the brim of the pelvis. The operation, in which I had the able assistance of Mr. Whittington and Dr. Thomson, of Retford, presented no special difficulties. The uterus was opened without hæmorrhage. The child, which was dead, was of enormous size. The uterine walls were exceptionally thick, and for this reason, and also fearing there might be considerable bruising of the parts, I decided upon Porro's operation, and removed the uterus, instead of Cæsarean section. The patient made an excellent recovery, but the protracted convalescence of the extra-peritoneal method compares unfavourably with the more brilliant results of the Cæsarean operation ; and when there is an option in the

matter, I have little doubt that the Cæsarean section will commend itself increasingly in the future.

Two cases of sub-peritoneal pedunculated fibroids, one in a young married woman, 24 years of age, were treated successfully. In one case the pedicle was ligatured and returned, in the other brought outside and fixed in the wound.

Five cases of abdominal hysterectomy complete the list. These were treated by various methods. In No. 11 I ligatured the uterine arteries and completed the operation very satisfactorily, sewing the uterine flaps together and bringing the peritoneal surfaces carefully into apposition with fine catgut sutures. The stump was then allowed to fall back. The result was not a success. I am unable to account for the patient's death. There was neither hæmorrhage nor peritonitis, and the *post-mortem* revealed nothing but a fatty liver.

In Nos. 31 and 32 I adopted the following method: The broad ligaments were first tied off on either side and the uterine arteries secured. The tumour was amputated by an antero-posterior V-shaped incision as near the cervix as possible. Catgut sutures were then passed through the flaps, the stump brought up to the parietal wound, and the ends of the sutures passed through the parietal peritoneum and tied. In this way the uterine cicatrix was practically extra-peritoneal. The aponeurotic structures and skin were brought together over the face of the stump by a continuous catgut suture.

In one case the wound healed by first intention, and there was not a moment's trouble or anxiety about the case from the moment of operation. In the other the result was not so good. Union was not complete. The stump sloughed and convalescence was protracted while the slough and sutures were coming away.

In No. 39 I adopted the extra-peritoneal treatment with the *serre-nœud*.

Operators have long been endeavouring to supersede the

use of the clamp by some intra-peritoneal method. The use of the wire *serre-nœud* is regarded as an unscientific and unsurgical proceeding. The difficulty is the treatment of the stump. If allowed to fall back into the peritoneal cavity it may bleed, or the bowel may become adherent to it, and give rise to trouble later on. It was to obviate these two sources of danger that I adopted the method mentioned above in cases 31 and 32. Then another difficulty arose; the stump sloughed.

After the uterine arteries are tied the circulation in the flaps is feeble and the sutures may be sufficient to strangulate them entirely. It has been proposed, therefore, to cut away the uterus altogether, just leaving the cervix, and to close the peritoneum over it. Mr. Mayo Robson, Mr. Bowreman Jessett, and other operators, are convinced that in the near future myoma of the uterus will be treated by total extirpation or pan-hysterectomy. I must say I do not feel so confident on this point. Pan-hysterectomy has dangers of its own, and I cannot do otherwise than believe that the floor of the pelvis must be seriously weakened by such an operation. On the other hand, the success of the extra-peritoneal treatment of the stump has been amply demonstrated, and, I am inclined to think, will maintain its position as the operation of election; but when for some reason or another it is not available, then I think pan-hysterectomy may eventually prove superior to all other methods, at least to all that have yet been tried.

On the general after-treatment of these cases I should like to make a few remarks. On returning the patient to bed the pulse and temperature are taken. The temperature after an operation is generally sub-normal, and indicates to some extent the amount of shock. When this is severe an enema of beef tea and brandy is given, and hot water bottles are applied to the feet and chest. I find the use of large enemata attended with better results than smaller. Three-quarters of a pint or more of a dilute solution of beef tea is readily retained under the circumstances, and being quickly absorbed

acts as a mild kind of transfusion. As a rule the shock passes off in about a couple of hours, and the patient's skin becomes moist.

Some *retching* and *sickness* due to the anæsthetic may be expected, and while this continues it is better not to give anything by the mouth. Three or four hours after the operation I allow a cup of hot tea. Should this be returned, it will wash out the stomach, and probably put an end to the retching. Later in the day another cup of tea may be given, and a little arrowroot in the evening. Occasionally the vomiting persists, and may be very distressing. When this is the case, keep the stomach empty. Should it be necessary, nutrient enemata may be given every four hours. A mustard leaf applied to the epigastrium sometimes has a good result. I have seen this distressing symptom instantly relieved by a hypodermic injection of morphia.

Thirst is often very troublesome on the day following an operation. I find this is relieved by hot tea more effectually than by any other means. A sliced lemon or orange to suck is greatly appreciated. Ice does not appear to relieve the thirst to the same extent, and is not very agreeable to a patient who has bad teeth, or is wearing an artificial plate. A pint of hot water injected into the rectum has been recommended, but if there is no sickness I cannot see the reason for withholding a reasonable quantity of fluid by the mouth. The practice of giving teaspoonfuls of hot water every hour appears to me only to aggravate the distress. It is as well to encourage the patient to bear with it as well as she can, and explain to her that it will pass off in the course of a few hours.

The *diet* during the first few days should be light and digestive. If the patient is going on well, some fish may be allowed on the third day. Each case must be treated according to circumstances. If the patient's condition is low, nourishing food should be given at once after the operation. Unless there are special reasons to the contrary, I am convinced the patient feels more comfortable when

the stomach has something to do. Many of these patients are in other respects quite healthy, and up to the time of operation accustomed to a liberal diet. By the third day they begin to feel low and depressed if the starvation is pressed too far. The danger of overfeeding with an untrained nurse is greater than that of underfeeding, but there is no occasion for a treatment different to that required in other surgical cases.

Pain following operation is not often severe, but if sufficient to prevent the patient from sleeping, it is advisable to give a hypodermic injection, a quarter or third of a grain of morphia. Opium should never be given unless it is absolutely required, but the antipathy to its use exhibited by some operators is just as senseless as the old practice of giving it indiscriminately in every case. Like other valuable remedies, it must be used with discretion, and not abused. I have seen the best results follow its exhibition, and a patient who was restless and unhappy, quite a different creature in a few hours. In one case a troublesome hiccough, which was exhausting the patient on the third day, was at once allayed by a quarter of a grain of morphia taken by the mouth, and in another persistent retching was speedily relieved by a hypodermic injection.

Pain in the back on the second day is not infrequently complained of, and may arise from the unaccustomed dorsal decubitus. Unless there is reason to the contrary, I allow the patient to turn on her side, when relief from the pain is soon obtained and she is able to go to sleep.

Tympanites is sometimes troublesome. The abdominal distension is not necessarily associated with, or a symptom of, peritonitis. The rectal tube is often of service, and should be retained for ten to twenty minutes at a time. Early purgation is, however, the most efficacious remedy. As a rule, I get the bowels to act on the fourth day, but if the abdomen is much distended, I do not wait. A good saline purge, repeated if necessary, or, better still, a dose of castor oil, should be followed by an enema. This ensures

the softening of hard scybalæ, and an easier evacuation. An accumulation in the bowel sometimes causes a rise in the temperature, which subsides at once when the bowels have been moved.

The *urine* should be drawn off six hours after the operation, and subsequently at intervals of six or eight hours, until the patient can pass it herself. The catheter should not be used longer than required, and the greatest precautions observed to keep it aseptic. Cystitis is one of the unfortunate complications which may arise during convalescence from an abdominal operation, and is generally attributed to the introduction of bacteria on an imperfectly sterilised catheter. This is probably most often the case; but cystitis may occur independently of the use of the catheter. The patient, lying on her back, is unable to empty the bladder completely, and a certain amount of residual urine is always left behind. Germs have no difficulty in passing up the urethra, more especially the bacillus coli, which swarms on such occasions, and once it gets to the residual urine cystitis is inevitable. The best way to treat it is to give the patient an opportunity of passing urine more readily, and to wash out the bladder with a solution of boracic acid, gr. x. to the ʒi., or boro-glyceride. The simplest contrivance for the purpose is a glass funnel attached by flexible tubing to a large-eyed soft catheter. As the funnel is raised, the fluid pours into the bladder by its own weight; and as it is lowered, the fluid flows back again.

Peritonitis, owing to the improvements in aseptic surgery, has no longer the terrors for us it formerly had. Instead of being, as it was at one time, the most frequent cause of death, it is now happily a very rare event. Its advent is often most insidious. The first symptom to excite alarm is persistent vomiting. At first the ejected matter is a yellowish frothy fluid, subsequently it becomes a dark green, and finally almost black. Retching and vomiting after the anæsthetic may continue for twenty-four hours, or even longer. It

does not necessarily indicate peritonitis, even if it persists for several days. Similarly, as already mentioned, tympanites may be present and yet not be associated with peritonitis. Nor does the temperature give any characteristic indication, for I have seen many cases in which it has remained low throughout. But should there be a persistent acceleration of pulse, accompanied by vomiting and abdominal distension, then danger must be apprehended. The patient, moreover, has a jaundiced and haggard expression, the mental condition is depressed, and the tongue is red and dry, though sometimes it remains moist. No flatus is passed *per rectum*.

When peritonitis has been recognised, the question of treatment at once arises, and here I may say at once, if the peritonitis is general active treatment is of little avail. Some operators still think that free purgation is of use, and that it may prevent peritonitis; there is no proof whatever that such is the case. Can any good be gained by re-opening the wound and flushing out the peritoneal cavity? My experience is that the proceeding is perfectly useless. I have never seen the least benefit from the attempt. At best only the most superficial coils of intestine close to the opening can be reached. The patient seldom survives the operation more than a few hours. The *post-mortem* examination reveals the impossibility and inutility of the whole proceeding. Pus is found covering the whole peritoneal surface and extending into every recess and corner.

Intestinal Obstruction is a rare event, but it is well for the operator to bear it in mind. It may occur at any time subsequent to an abdominal operation, either by the intestine becoming adherent to the parietal incision or other raw surface, or by becoming entangled in the omentum. I have certainly seen one case which terminated fatally a month after operation, the condition not having been recognised. When intestinal obstruction occurs shortly after the operation, it is liable to be mistaken for peritonitis.

CLINICAL NOTES AND OBSERVATIONS ON ONE HUNDRED
CONSECUTIVE CASES OF ABDOMINAL SECTION.

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THERE would be little purpose served by merely reporting this series of cases, but by a general review it may be possible to learn something, and especially is this so since they cover a time extending from August, 1893, to December, 1896, and indicate to some extent changes that have occurred in gynæcological practice. Before dwelling on any individual case I must refer briefly to the *technique* of my operations, and in doing so I would point out that there cannot be much at fault as I have only had one death from peritonitis after operation, due to perforation of the bowel on the sixth day after the removal of a very adherent pyosalpinx. The anæsthetic used is, with rare exceptions, a mixture of one part of chloroform with two of ether, given in Clover's inhaler without the bag. The abdominal wall is previously cleansed by the nurse with turpentine and soap and water, but at the time of operation I rewash it with soap and water, and lately I have adopted the further precaution of first rubbing it with methylated spirits. In cases of vaginal cœliotomy I cleanse the vagina thoroughly with lysol solution. To prevent stitch abscesses, the skin must be thoroughly cleansed, the sutures and needle should be boiled previous to use, the sutures should be inserted accurately in position and, above all, must not be pulled too tight. For my hands I have invariably used hot water, soap and a nail brush, and if after this a bacteriologist should

find, and he probably would do so, that my fingers were not absolutely sterile, I should not mind ; there is an old saying that the proof of the pudding is in the eating, and I have no fear, for experience tells me every day that hands so cleansed can operate in the peritoneal cavity with impunity. My instruments and ligatures, &c., are boiled before the operation, during which they lie in trays of boiling water. I have hitherto used sponges, but the time and trouble entailed in cleaning them have determined me to use in future gauze mops which can be bought ready made and only require sterilising. As regards the length of the incision in the abdominal wall I have little to say, for it seems to me that every operator would naturally make a small one to start with and then lengthen it if necessary. I must also say that too long an incision is a lesser evil than one too short, for when dense adhesions have to be broken down it is an immense advantage to see what one is doing, and moreover the longer incision will enable one to do the necessary manipulations with greater facility. I have never kept a record of the length of time my operations have taken, for no greater mistake can be made than trying to operate against time ; yet I always have believed that there should be no dawdling, no having to wait for things which should have been ready beforehand, and no wasting time on unimportant details. What has to be done should be done straightway with care and deliberation. Cases do occasionally arise, such as Nos. 12 and 44, recorded more fully later on, where it is necessary to diminish the shock as much as possible, and therefore to do the operation quickly, but these are exceptional. Three of my vaginal hysterectomies took me nearly, if not quite, two hours each, but in such cases a great part of the time is occupied in extra-peritoneal work, and there is no prolonged exposure of the peritoneum. The after treatment must, to some extent, vary with each case, but the general lines I have followed are :—no morphia ; opening of the bowels by the second day ; liquid food on the second day ; and some solid food

on the third day, for if there is one thing calculated to cause flatulence and discomfort it is a slop diet.

In the above list there are operations of so many kinds that it is impossible and indeed unnecessary to describe the method of performing each, although I shall have to refer in detail to some of them. I may say here that I have come to the conclusion that the less one can do with glass drainage tubes the better, and I now drain only when absolutely necessary, as after "washing out," for which I use plain water. I object to glass drainage tubes because their use entails a weak spot in the scar and leads the way to a ventral hernia. My proportion of ventral hernia is large, viz., eight cases; of these eight cases three, Nos. 62, 72, and 78 followed operation by other surgeons; of the other five, all except one had had a glass drainage tube, and the hernia was at the place where the tube had made exit. The exception, No. 31, was in a short stout woman, who went about her work soon after her first operation without wearing her belt.

There is an old saying that a man learns more from his failures than his successes, and its truth is here exemplified. From No. 15, a disastrous case of hydronephrosis, I have learnt much. It shows once more how difficult it may be to diagnose the exact nature of a large cystic tumour. In this case the patient came to me complaining of getting larger in the abdomen, *no pain*, menstruation regular. On examining her I found the abdomen larger than a full-term pregnancy, bulging more to the right side than to the left, dull on percussion and with a well-marked thrill. She had three months previously seen blood in her urine, and the bulging to the right side made me suspect hydronephrosis, but "dumping" in either loin was painless, and she had no frequency of nor pain on micturition, and her urine was acid and free from albumen. I diagnosed ovarian cyst with the possibility of right hydronephrosis. At the operation I removed by abdominal nephrectomy a large hydronephrotic right kidney, in the pelvis of which were several stones.

She did very well for twenty-four hours, and then complete suppression of urine with coma, ending in death.

Post-mortem.—Peritoneal cavity quite clean, left kidney hydronephrotic, as large as a small melon, with merely a shell of kidney tissue left, and in the ureter and its branches were seven calculi, two of them large. I feel that we cannot be too careful in our examination of abdominal tumours; it is possible that by a more careful examination I might have discovered the condition of the left kidney and refrained from operating. In any case of doubt I shall in future examine the urine for the percentage of urea.

Again, I cannot look on my cases of abdominal hysteropexy (ventral fixation of the uterus) with unqualified satisfaction. They are six in number, all done for prolapse with retroversion. A report on three of these appeared in the *Birmingham Medical Review* for September, 1894, and when reporting them I was in hopes that they were all cured permanently, and that the operation would be no hindrance to successful parturition. They are certainly all cured of their prolapse and retroversion, in none of them is there any sign of recurrence; two, Nos. 10 and 58, have borne children successfully, but to one case I was called on June 10 last by her doctor and found her in a state of prostration. She had been in most painful labour for twenty-four hours without any dilatation of the cervix, in fact without any progress at all. The cervix was so high in the pelvis that it was difficult to feel. Her condition did not warrant any prolonged interference, and bearing in mind the closed cervix and the possibility of adhesions, we decided to remove the child by Cæsarean section. This I did in a very few minutes, and found the lower anterior surface of the uterus firmly adherent to the front abdominal wall at the site of the old hysteropexy. The hysteropexy had been too successful, the adhesions evidently preventing proper contractions of the uterus and dilatation of the cervix. She made a good recovery and is now quite well.

After this experience I do not feel inclined to perform

abdominal hysteropexy on a woman likely to become pregnant; rather shall I in such cases perform vaginal fixation or vaginal hysteropexy as I did on case No. 89. C. T., aged 22, married three years, confined eighteen months ago, suffering from retroflexion and prolapse which caused her such pain and discomfort as to render her life a burden to her. The uterus is now in good position and causes her no trouble. I am anxious to see how this operation will affect the course of pregnancy. Will its effect be less harmful than ventral fixation? From a communication of Dr. Macan, in the *BRITISH GYNÆCOLOGICAL JOURNAL* for last August, the advantages of vagino-fixation do not seem to extend much beyond the maintenance of the uterus in a good position, and the influence of the operation on pregnancy appears to have been distinctly unfavourable. May not this unfavourable influence be due to the large surface of adhesion? A minimum of suturing is all that is required to keep the uterus anteverted, therefore one suture applied just above or even at the level of the internal os will relieve the patient, and will not cause adhesions so extensive as to interfere with the course of pregnancy. We must, when we consider the miserable condition of a woman suffering from prolapse, welcome an operation which holds out a cure for that condition, and at the same time make every effort to improve it so that it will have no influence for harm on pregnancy. In cases where the prolapse has been complete or even nearly so, where the vaginal walls have been much overstretched, then I think it advantageous to supplement the vagino-fixation with bilateral colporrhaphy and possibly a perineorrhaphy.

Myoma.—My cases of myoma of the uterus are twenty in number. The operations done for them have been as follows :—

	Cases.	Recovered.	Died.
Removal of appendages	14	13	1
Hysterectomy by the clamp	1	1	
Abdominal pan-hysterectomy	2	2	
Vaginal hysterectomy	1	1	
Exploratory incisions	2	2	

Before discussing the treatment of myoma of the uterus I must add to this summary the important note that the two cases of abdominal pan-hysterectomy and the case of vaginal hysterectomy had previously had their appendages removed. This note is of great importance. On examining the dates of these operations, I find that it was not until May 20 of last year that I performed abdominal hysterectomy for myoma (I shall use the word "hysterectomy" for complete removal of the uterus, because in the operation by the clamp the removal is not complete, only partial); previously I had, with one exception in which I used the clamp, removed the appendages, and in the majority of the cases the procedure succeeded in curing the patient, not only arresting the hæmorrhage but distinctly diminishing the size of the myoma. Yet, in May, and again in July of last year I had to operate for a second time, the operation in both cases being abdominal hysterectomy, while in December I performed vaginal hysterectomy for a small myoma in the case of a patient where I had removed the appendages three years previously (No. 8 in the list). The two cases of abdominal hysterectomy, *i.e.*, complete extirpation of the uterus, were as follows:—C. P., single, aged 36, had had her appendages removed nine months previously for a large myoma reaching nearly up to the umbilicus (No. 67). This operation was by no means an easy one owing to the large size of the tumour. For some time she was better, but three or four months previous to her second operation there was a return of the hæmorrhage, and the myoma was increasing in size. I then performed a complete hysterectomy by the method of Martin, of Berlin, ligaturing the broad ligament on each side by successive ligatures from above downwards, cutting on the uterine side of the ligatures until I reached the level of the internal os, when, having divided the peritoneum in front of and behind the tumour at the level of my lowest ligature, I opened the vagina in front of and behind the cervix, ligatured the uterine artery on each side and cut the whole uterus away.

I carried the ligatures out through the vagina together with a small piece of iodoform gauze. Her recovery was rapid, and her medical attendant, Dr. Tunstall, of Sutton Coldfield, tells me that she is now well except for a little occasional pain in the lower part of the abdomen. The second one was in a single woman—S. T., aged 43. She had had her appendages removed by my colleague, Mr. Christopher Martin, three years previously for a small myoma, after which operation the growth of the myoma and the hæmorrhage were arrested, but her pain persisted, and for the last twelve months had rendered her absolutely useless, confining her for days at a time to her bed. I found, on examining her, that the myoma was about the same size as at her first operation, and very hard. I operated on July 10 last (No. 88), performing the abdominal hysterectomy in the same way as in the previous case. She is quite well now and immensely grateful for the relief afforded her. I found, besides an interstitial myoma about the size of an orange near the fundus, three small ones close to the internal os.

In case No. 98, I performed vaginal hysterectomy for a small sessile myoma growing from the fundus; this case also suffered from intense pain, constant and extending throughout the whole pelvic girdle. At present she expresses herself as feeling that the cause of the pain has gone; it is, however, too soon to say that her relief from pain will be permanent. Complete extirpation of the uterus for myoma is still, comparatively speaking, in its trial stage, but from the record of cases published in Great Britain by Dr. Smyly, Mr. Bowreman Jessett, Mr. J. W. Taylor, Mr. Christopher Martin and others, as also from my own experience, I cannot help thinking that for a large myoma or a soft fibro-cystic myoma it is the best treatment. At present the mortality of the operation is slight, and although there is at first a natural inclination to think that complete extirpation exposes the patient to a greater risk than removal of the appendages, experience is teaching us the contrary. In fact, from what I have seen of these cases the recovery

is rapid and runs a much smoother course than after oöphorectomy. And against this supposititious greater risk we must place the complete cure, for we do not leave the patient exposed to the possibility of requiring a second operation. I would not, from a limited experience, lay down general principles. I would not say that hysterectomy, or, strictly speaking, partial hysterectomy, by the clamp with its extra-peritoneal stump will never be done; nor would I say that hysterectomy with the intra-peritoneal stump (really, because it is covered by peritoneal flaps this stump too is extra-peritoneal) will never be done. I can only say that I shall never do the latter, for if the myomatous uterus can be freed from its connections so much as to allow of a stump being formed at the level of the internal os, then it can be removed entirely. For small myomata the choice lies between vaginal hysterectomy and removal of the appendages.

In two of my cases of myoma (Nos. 42 and 71) I had diagnosed "adherent cystic ovaries." In both these there was, extending back for some years, a history of severe premenstrual and menstrual pain, and continual bearing-down pain. On examination a mass could be felt in Douglas' pouch, tender to the touch and moving with the uterus. I only found at the time of operation that I was treating a small myoma in addition to removing thickened and occluded tubes with cystic ovaries. I believe that pain is almost a constant symptom of a small myoma, and that chronic salpingo-oöphoritis is a frequent accompaniment, consequently it will sometimes happen that an exact diagnosis may not be made. The treatment by removal of the appendages is equally right for both conditions.

Cystoma of Ovary.—My cases of ovariectomy for cystoma amount in the above list to fifteen, and all made a good recovery, but I cannot let the recording of these cases pass without referring in detail to some of them. The first one of interest is No. 12. Her history is as follows:—

S. L., aged 64; has had thirteen children. She men-

struated regularly till her menopause twelve years previous to my seeing her on January 2, 1894. She had not noticed till a few weeks ago that she was getting larger in the abdomen, and then her attention was only called to it by a sudden attack of acute pain, from the onset of which to my seeing her she had suffered intense pain, with fever and profuse night sweatings. On examining her I found a large fluctuating tumour in the abdomen, reaching to within an inch of the costal arch, especially prominent on the right side, extremely tender to the touch, and a thrill could be felt over parts of it. Temperature 100° ; pulse 110. I diagnosed a "suppurating ovarian cyst" and advised immediate operation in spite of her condition, as I felt that the longer the delay the worse it would become. On January 4 I operated and removed a large, universally adherent ovarian cyst, multilocular, the loculi filled with a bloody purulent fluid, the whole cyst twisted tightly at its pedicle. I quickly washed out the large cavity which had been occupied by the cyst and put in a glass drainage tube. At 7 p.m. on the same night her pulse was over 140, her temperature 103.6° . I gave her champagne, small quantities at frequent intervals till her pulse came down to 112, and her condition of extreme collapse had improved. It was not till over a week that her pulse fell below 100. Except for this she did well. The tube was removed on the second day; no distension or trouble in opening the bowels. She got up on January 25, three weeks after the operation, and is now quite well.

Another interesting case is No. 27. J. H., aged 38. First seen January 9, 1894. Menstruated regularly till four months before, not at all since. Had noticed a swelling in the abdomen for the last three or four months, and had had severe pain for the last two weeks. She was a thin, anxious-looking woman. Abdomen distended up to the costal arch; well marked thrill, alteration of level of dulness on alteration of position. On deep palpation a firm knobby tumour about the size of a full term foetus could be felt, very

movable and painful. My diagnosis was ovarian cyst and ascites. At the operation I found the peritoneal cavity filled with a thick yellowish fluid, and a large multilocular ovarian cyst detached from below, deriving all its nutrition from its attachment to the great omentum just below the stomach. The whole of the peritoneum, especially in the pelvis, was studded with small papillomatous growths. She quickly recovered and for a time seemed to "pick up" as she expressed it, but in a few months the abdomen filled again, she lost flesh rapidly, and died from ascites due to malignant papilloma of the peritoneum.

Another interesting case is No. 44, where I was called by the medical attendants, Drs. Tyler and Bert Jordan, on December 19, 1894. They had only been summoned the previous day. The history was as follows :—

H. S., aged 23, married three years ; one child, fourteen months old. Regular since confinement except for the last three months, during which she had menstruated every two or three weeks, losing too much each time and suffering great pain. She was in a state of low muttering delirium, sordes on the lips and gums, tongue brown and dry ; pulse 120, temperature 102°. She lay on her back with her knees drawn up nearly to the abdomen, which was very large and especially prominent towards the left side. The swelling was very tense and had a well-marked thrill ; the slightest pressure upon it caused her, even in her delirious condition, to cry out. I gathered that the abdomen had been getting larger for four or five months, but only for the last few days had been intensely painful. She was in no condition to stand removal to the hospital, so I had to operate in a very small room of a two-roomed cottage. On December 20, the day after I first saw her, I removed a large suppurating ovarian cyst. In spite of her condition at the time of operation and her surroundings she made the most rapid recovery I have ever witnessed ; her temperature was normal on the first day after operation, and never rose again above 99.2°. I had the greatest difficulty in persuading her to stop

in bed after a week. I believe, however, that this patient would have survived any operation, for she made an equally rapid recovery after a second, performed on November 19, 1895—less than twelve months after the first. This second operation was done at the Birmingham Hospital for Women, and consisted in the removal of a large multilocular cyst, having no definite pedicle below, but universally adherent. The adhesions to the under surface of the mesentery and to the coils of small intestine were so strong that I had to leave portions of the cyst wall behind, the hæmorrhage from which I stopped by Paquelin's cautery. This cyst was different from the first one removed, in that the loculi were much smaller and filled with thick colloidal matter, and altogether there was more solid tissue than in the first. It had grown very rapidly, and doubtless was the precursor of a third growth which came in another two or three months, which an exploratory incision revealed to be a sarcoma completely imbedded in and united with coils of small intestine. This third one killed her three months after the third operation.

The other cases of ovarian cyst, with the exception of two or three with twisted pedicles, present nothing special.

Chronic Salpingo-oöphoritis.—My cases of chronic salpingo-oöphoritis include cases varying from very distended and occluded tubes with cystic ovaries all united into one mass and firmly adherent to surrounding structures, to tubes simply thickened and occluded with few adhesions. Some of them therefore involved an operation of difficulty, others of no difficulty. They are fourteen in number, and nine of them had a history of an old attack of gonorrhœa. They all recovered, and are alive and well at the present time. Some of them, though recovering quickly from the operation, were some months before being free from pain and excessive loss on menstruation. This was probably due to some portion of ovarian tissue being left behind, for it is in these cases that it may be most difficult to effect a complete removal of the ovary. While speaking of these cases of

chronic salpingo-oöphoritis, I should like to refer to No. 84, from whom I removed a fibroma of the ovary by vaginal cœliotomy. I refer to it here because the operation that I then did impressed upon me the possibility, in suitable cases, of removing the appendages for chronic salpingo-oöphoritis through the vagina. The ovarian fibroid was in a young woman, aged 22, a patient of Dr. Shillito of Handsworth. She had suffered from the most intense pain at her menstrual periods for nearly a year, pain unrelievable by any form of treatment. On examining her I found a small hard mass in the pouch of Douglas, adherent to the back and side of the uterus, from which it could easily be distinguished bimanually. The uterus was retroflexed. I thought that the lump was a cystic ovary, which I decided to try and get out by a vaginal cœliotomy, ignipuncture it and return to its place; finally to do a vaginal fixation, thus relieving her without placing her under the necessity of wearing a belt. But when I came to operate on her on May 15, 1896, at which operation Drs. Shillito, Martin Young and Barber were present, I found after bringing the fundus of the uterus into the vagina, that the right ovary was larger than I had anticipated, larger than a tangerine orange, very hard and adherent. It was impossible to bring it into the vagina while the opening was so largely blocked up by the body of the uterus. I separated the adhesions as much as I could, returned the uterus into the abdomen, and while my assistant pushed it away to the left side I managed to pull the ovarian fibroid into the vagina and to remove it after ligaturing the pedicle. I completed the operation by vaginofixation. She is now at her work, free from pain and under no necessity of wearing a belt. I am in hopes that this operation is a forerunner of others, and that I may be able to treat some of the cases of salpingo-oöphoritis by the same method. I believe that this method has advantages over abdominal cœliotomy in that drainage is more perfect and there is no weakening of the abdominal wall. Since last December I have removed by vaginal cœliotomy the appen-

dages in a case of old gonorrhœa. The tubes were thickened, dilated and occluded at their abdominal ends, in addition to which both ovaries were enlarged, cystic, and very adherent to the tubes and the back of the broad ligament, the right ovary in particular having a cyst nearly as large as an orange, the contents of which I let out by puncturing it with the scalpel. The patient made a good recovery. In this case too I found it a great advantage to push the uterus upwards and to one side while I was removing the appendages of the opposite side.

Pyosalpinx and Tubo-ovarian Abscess.—My cases of pyosalpinx and tubo-ovarian abscess are ten in number, two of them being conjoined with myoma. One (No. 74) died suddenly six days after the operation. She had a large left pyosalpinx, densely adherent to the rectum behind, to the uterus at the side, and to the bowel and mesentery above. It was with the greatest difficulty that I removed it. She went on very well for four days, when she got some slight distension which went down on free movement of the bowels, but on the sixth day she suddenly sank. The pathologist's report was to the effect that there was a recent perforation of the upper part of the rectum. All the other cases made a good recovery. One, however, a case of tubo-ovarian abscess (No. 34), although recovering from the operation could not be said to be cured, and in fact she figures again in the list as No. 99. Her history is as follows :—Notes of September 3, 1894, are to this effect. E. A., aged 42; married twenty-four years; four children. Menstruation regular till two years ago, since when she has been losing far too much and too often. Great pain in the lower part of the abdomen, especially for two days preceding menstruation. Severe hæmorrhage since August 31, *i.e.*, for the last three or four days. On examination I found a small pedunculated polypus protruding from the os uteri; this I removed and so stopped the hæmorrhage for which she had consulted me. As her pain persisted and even increased, I saw her again at the beginning

of the next October in consultation with Dr. Kirby. On examination I found the uterus very slightly movable, hard to the feel; behind and to the right of it was a large mass, tender, more movable than the uterus, and elastic; on the left side a tender indistinct swelling could be felt. I diagnosed double tubo-ovarian abscess. On October 9 I operated and removed from a dense mass of adhesions a right tubo-ovarian abscess. The hæmorrhage from the separated adhesions was so great that I had to pack tightly with iodoform gauze to arrest it. The left appendages were thickened and inflamed, but were so adherent that I could not remove them. I left the iodoform gauze packing for forty-eight hours, and then substituted for it a rubber tube. Although she recovered, the pain on the left side soon came back, and for the last twelve months she has menstruated every three weeks, suffering great pain and losing too much each time. I decided on her re-admission to try to remove the uterus and so relieve her of her intense menstrual suffering. I operated on December 19 last, and on opening the abdomen I found the omentum and small intestine adherent to the back of the bladder, but separating the adhesions I worked my way down to the bottom of the pelvis. Here I found the fundus of the uterus rigidly fixed in retroversion and imbedded in a dense mass of adhesions in Douglas' pouch. With difficulty I freed the anterior surface and fundus. I then opened the utero-vesical pouch of peritoneum from the vagina, pulled the fundus of the uterus into the vagina, and cut the entire organ out of a bed of dense fibrous tissue, partly ligaturing and partly clamping what was the broad ligament on each side. In doing this I had the invaluable assistance of my colleagues, Mr. J. W. Taylor and Mr. C. Martin. As this had taken me two hours and the patient was suffering severely from shock, I did not stay to do a radical cure for the ventral hernia from which she was suffering, but put her back to bed after suturing up the abdominal incision and draining through the vagina with iodoform gauze. She promptly recovered, and says

she feels free from pain. I have only now to treat her ventral hernia, when I hope she will be permanently cured.

I have narrated this case in detail because I believe that hysterectomy holds out a prospect of cure in cases of long-standing, intractable pelvic inflammation.

Carcinoma Uteri.—My cases of vaginal hysterectomy for cancer are too few and too recent to give any judgment on them. The first was done over twelve months ago and shows no sign of recurrence; the second was one mass of cancer from the external os to the fundus, so much so that my difficulty was in getting the vulsellum forceps to hold at all; fortunately both broad ligaments were free from the growth, so that I was able to keep quite clear of the disease with my ligatures. It was done on December 20 last, and she is now going about her work feeling quite well.

TABLE OF OPERATIONS.

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No.	Date.	Initials.	Age.	Married or Single.	Operation.	Disease.	Result. ¹
1	5/8/93 ...	F. P.	29	M.	Chronic salpingo- oöphoritis	Removal of append- ages	R.
2	25/9/93 ...	E. C.	55	M.	Cystoma of ovary ...	Ovariectomy ...	R.
3	26/9/93 ...	K. H.	38	S.	Cystoma of ovary ...	Ovariectomy ...	R.
4	2/10/93 ...	C. S.	72	M.	Cystoma of ovary ...	Ovariectomy ...	R.
5	20/10/93	M. S.	60	M.	Cystoma of ovary ...	Ovariectomy ...	R.
6	30/10/93	S. R.	23	M.	Tubercular abscess of mesentery	Incision and drainage	R.
7	5/11/93 ...	E. R.	29	M.	Myoma uteri... ..	Removal of append- ages	D.
8	16/11/93	S. D.	56	M.	Myoma uteri... ..	Removal of append- ages	R.
9	22/11/93	A. C.	36	M.	Double pyosalpinx ...	Removal of append- ages	R.
10	5/12/93 ...	E. R.	35	M.	Prolapsus uteri ...	Hysteropexy ...	R.
11	14/12/93	E. D.	30	M.	Carcinoma recti and pregnancy	Porro's operation ...	R.
12	4/10/94 ...	S. L.	64	M.	Suppurating cystoma of ovary	Ovariectomy ...	R.
13	23/1/94 ...	E. W.	26	M.	Myoma uteri ...	Removal of append- ages	R.
14	8/2/94 ...	E. C.	24	M.	Myoma with pyosal- pinx	Removal of append- ages	R.
15	14/2/94 ...	L. B.	24	S.	Hydronephrosis ...	Abdominal nephrec- tomy	D.
16	7/3/94 ...	M. H.	24	M.	Prolapsus uteri ...	Hysteropexy ...	R.
17	4/4/94 ...	A. N.	30	M.	Myoma uteri ...	Removal of append- ages	R.
18	4/4/94 ...	H. B.	43	M.	Prolapsus uteri ...	Hysteropexy ...	R.
19	20/4/94 ...	C. J.	38	M.	Myoma uteri ...	Hysterectomy by the clamp	R.
20	24/4/94 ...	C. W.	63	M.	? Tumour of mesen- tery	Exploratory incision	R.
21	1/5/94 ...	A. M.	34	M.	Appendicitis ...	Removal of appendix	R.
22	11/5/94 ...	A. C.	34	M.	Chronic salpingo- oöphoritis	Removal of append- ages	R.
23	25/5/94 ...	V. G.	22	M.	Pyosalpinx	Removal of append- ages	R.
24	29/5/94 ...	E. R.	49	M.	Double hydrosalpinx	Removal of append- ages	R.
25	5/6/94 ...	E. M.	26	M.	Tubal abortion ...	Removal	R.
26	14/6/94 ...	E. A.	32	M.	Tubercular salpingitis and peritonitis	Removal of append- ages	R.
27	19/6/94 ...	J. H.	38	M.	Transplanted ovarian cyst	Removal	R.
28	29/6/94 ...	M. D.	29	M.	Cystoma of ovary ...	Ovariectomy ...	R.
29	1/7/94 ...	E. A.	56	M.	Malignant disease of peritoneum with ascites	Incision and drainage	R.
30	22/8/94 ...	J. J.	30	M.	Chronic salpingo- oöphoritis	Removal of append- ages	R.
31	25/8/94 ...	H. C.	28	M.	Ventral hernia ...	Radical cure... ..	R.
32	3/9/94 ...	R. M.	36	M.	Cystoma with twisted pedicle	Ovariectomy ...	R.

¹ R. = recovered, D. = died.

No.	Date.	Initials.	Age.	Married or Single.	Disease.	Operation.	Result. ¹
33	4/10/94 ...	E. P.	32	M.	Chronic salpingo- oöphoritis	Removal of append- ages	R.
34	9/10/94 ...	E. A.	42	M.	Tubo-ovarian abscess	Removal	R.
35	15/10/94	S. C.	31	M.	Papilloma of ovary...	Removal	R.
36	16/10/94	S. J.	37	M.	Chronic salpingo- oöphoritis	Removal of append- ages	R.
37	20/10/94	E. R.	42	M.	Myoma uteri ...	Exploratory incision	R.
38	27/10/94	E. P.	45	M.	Myoma uteri ...	Removal of append- ages	R.
39	5/11/94 ...	C. P.	28	M.	Myoma uteri ...	Removal of append- ages	R.
40	20/11/94	A. C.	29	S.	Pyosalpinx	Incision and drainage	R.
41	20/11/94	N. I.	19	S.	Hydatid of liver ..	Removal	R.
42	5/12/94 ...	J. G.	42	M.	Myoma and chronic salpingo-oöphoritis	Removal of append- ages	R.
43	10/12/94	A. B.	36	M.	Chronic salpingo- oöphoritis	Removal of append- ages	R.
44	20/12/94	H. S.	23	M.	Suppurating ovarian cyst	Ovariectomy	R.
45	20/12/94	A. D.	34	M.	Myoma	Removal of append- ages	R.
46	21/1/95 ...	E. J.	42	M.	Myoma	Removal of append- ages	R.
47	25/1/95 ...	E. C.	56	M.	Ventral hernia ...	Radical cure... ..	R.
48	1/2/95 ...	H. B.	38	M.	Acute suppurative peritonitis	Incision and drainage	D.
49	11/2/95 ...	E. S.	18	S.	Cystoma with twisted pedicle	Ovariectomy	R.
50	13/2/95 ...	F. P.	30	M.	Ventral hernia ...	Radical cure	R.
51	21/2/95 ...	A. J.	31	M.	Prolapsus uteri ...	Hysteropexy	R.
52	26/2/95 ...	H. C.	29	M.	Ventral hernia ...	Radical cure	R.
53	27/2/95 ...	E. C.	23	M.	Chronic salpingo- oöphoritis	Removal of append- ages	R.
54	1/3/95 ...	A. R.	22	M.	Prolapsus uteri ...	Hysteropexy	R.
55	19/4/95 ...	C. M.	32	M.	Chronic salpingo- oöphoritis	Removal of append- ages	R.
56	25/4/95 ...	A. C.	35	M.	Acute peritonitis ...	Incision and drainage	R.
57	26/4/95 ...	M. H.	35	M.	Myoma	Removal of append- ages	R.
58	27/4/95 ...	E. S.	27	M.	Prolapsus uteri ...	Hysteropexy	R.
59	4/5/95 ...	A. W.	41	M.	Cystoma of ovary ...	Ovariectomy	R.
60	4/5/95 ...	J. H.	31	M.	Umbilical hernia ...	Radical cure	R.
61	15/6/95 ...	E. M.	29	M.	Myoma and chronic salpingo-oöphoritis	Removal of append- ages	R.
62	1/7/95 ...	H. P.	49	M.	Ventral hernia ...	Radical cure	R.
63	1/7/95 ...	A. A.	30	M.	Right ovarian cystoma	Ovariectomy	R.
64	3/7/95 ...	F. W.	39	S.	Tubercular peritonitis	Incision and drainage	R.
65	17/7/95 ...	M. P.	32	M.	Chronic salpingo- oöphoritis	Removal of append- ages	R.
66	17/8/95 ...	B. N.	23	S.	Left cystoma of ovary	Ovariectomy	R.
67	13/8/95 ...	C. P.	35	S.	Myoma	Removal of append- ages	R.
68	16/9/95 ...	A. R.	33	S.	Left ovarian cystoma	Ovariectomy	R.

¹ R. = recovered. D. = died.

No.	Date.	Initials.	Age.	Married or Single.	Disease.	Operation.	Result. ¹
69	28/9/95 ...	J. C.	32	M.	Left ovarian cystoma	Ovariectomy ...	R.
70	19/11/95	H. S.	24	M.	Cystoma ...	Removal ..	R.
71	20/11/95	S. P.	36	M.	Myoma and chronic salpingo-oöphoritis	Removal of append- ages	R.
72	22/11/95	C. H.	58	M.	Ventral hernia ...	Radical cure ...	R.
73	26/11/95	E. A.	32	M.	Ventral hernia ..	Radical cure ...	R.
74	30/11/95	M. J.	42	M.	Pyosalpinx ...	Removal ...	D.
75	20/12/95	M. A.	46	M.	Cancer of uterus ...	Vaginal hysterectomy	R.
76	23/12/95	A. N.	53	M.	Ascites (? malignant)	Incision and drainage	R.
77	23/12/95	S. R.	32	M.	Left chronic salpingo- oöphoritis	Removal of left ap- pendages	R.
78	9/1/96 ...	A. L.	34	M.	Ventral hernia ...	Radical cure ...	R.
79	24/2/96 ...	S. S.	34	R.	Chronic salpingo- oöphoritis ...	Removal of append- ages	R.
80	9/3/96 ...	M. B.	50	M.	Umbilical hernia ...	Radical cure ...	R.
81	21/3/96 ...	B. D.	28	M.	Cystoma of ovary ...	Ovariectomy ...	R.
82	10/4/96 ...	A. M.	34	M.	Pyosalpinx ...	Removal ...	R.
83	15/4/96 ...	E. T.	27	M.	Acute suppurative peritonitis	Incision and drainage	R.
84	15/5/96 ...	E. C.	22	S.	Fibroid of right ovary	Removal by vaginal celiotomy	R.
85	20/5/96 ...	C. P.	36	S.	Myoma ...	Abdominal hysterec- tomy	R.
86	5/6/96 ...	K. B.	32	M.	Chronic salpingo- oöphoritis	Removal of append- ages	R.
87	10/6/96 ...	M. H.	26	M.	Labour in old hystero- pepy	Cæsarean section* ...	R.
88	10/7/96 ...	S. T.	43	S.	Myoma ...	Abdominal hysterec- tomy	R.
89	11/7/96 ...	C. T.	22	M.	Prolapsus uteri ...	Vaginal hysteropexy	R.
90	14/7/96 ...	T. W.	33	M.	Ruptured tubal preg- nancy	Removal ...	R.
91	20/7/96 ...	E. S.	24	M.	Inversion of uterus ...	Vaginal celiotomy, incision of uterus and reduction	R.
92	29/7/96 ...	L. G.	38	M.	Myoma and pyosal- pinx	Incision (exploratory)	R.
93	29/7/96 ...	A. P.	34	M.	Pyosalpinx ...	Removal of append- ages	R.
94	4/9/96 ...	E. H.	31	M.	Tubal abortion ...	Removal ...	R.
95	15/9/96 ...	H. P.	36	M.	Myoma ...	Removal of append- ages	R.
96	24/9/96 ...	E. J.	51	M.	Pyosalpinx ...	Incision and drainage	R.
97	25/11/96	S. H.	33	M.	Calculus pyone- phrosis	Abdominal nephrec- tomy	R.
98	4/12/96 ...	S. D.	57	M.	Myoma uteri ...	Vaginal hysterectomy	R.
99	19/12/96	E. A.	45	M.	Chronic tubo-ovarian inflammation and perimetritis	Vaginal hysterectomy	R.
100	20/12/96	F. A.	56	M.	Cancer of uterus ...	Vaginal hysterectomy	R.

¹ R. = recovered. D. = died.² Child living.

ON THE USE OF NITROUS OXIDE GAS AND OXYGEN IN
MINOR GYNÆCOLOGICAL OPERATIONS.

By H. BELLAMY GARDNER, M.R.C.S.Eng., L.R.C.P.Lond.

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A SAFE anæsthetic agent, which will rapidly produce unconsciousness with muscular relaxation and leave behind it no after-effects whatever, is greatly needed at the present time for those minor surgical procedures which are every day becoming more necessary in gynæcological practice.

Chloroform has a mortality of at least 1 in 2,500 administrations, and leaves the patient unfit to resume her ordinary occupations or be moved from the operating couch for a considerable interval after its inhalation.

The A.C.E. mixture shares these disadvantages, though its death rate is only half that of chloroform, being 1 in 5,000 administrations.

Ether and *Gas and Ether* produce some feeling of malaise and transient mental disturbance, though ether has the great advantage of being quite five times safer than chloroform, with a mortality of less than 1 in 13,000 cases.

Nitrous Oxide Gas has a hardly appreciable mortality *per se*, but the muscular rigidity which is present during the anæsthesia, owing to an underlying asphyxial factor (due to insufficient oxygenation of the blood), even when a few breaths of air are admitted occasionally, renders it unsuitable for examinations of the pelvis or abdomen.

We have, however, of late years been introduced to a portable apparatus invented by Dr. Frederic Hewitt for the

purpose of adding small and regulated percentages of oxygen to the nitrous oxide gas.

By this admixture of oxygen, nitrous oxide gas is converted from an "irrespirable" into a "respirable" inhalation for the following reasons :—

Nitrous oxide gas alone has powerful anæsthetic properties, and when absorbed into the blood is carried in loose chemical combination with the hæmoglobin of the red corpuscles.¹ It displaces the oxygen of the hæmoglobin, but itself gives up no oxygen to the tissues, and, after completing the systemic, circulation is exhaled again unchanged as nitrous oxide gas. This physiological phenomenon produces, therefore, after fifteen to twenty-five respirations of the pure gas, a condition of oxygen starvation, with the resulting clinical asphyxial symptoms of irregular breathing, cyanosis, and jactitation.

At this point anæsthesia is complete, *not because* the patient is somewhat asphyxiated, but *because* of the potent anæsthetic influence of the gas upon the whole nervous system when carried to it by the blood. The asphyxial symptoms due to oxygen starvation, however, render it necessary to remove the face-piece and allow the patient some breaths of fresh air.

Unfortunately, the concurrent admission of quantities of air sufficient to abolish these asphyxial manifestations and furnish the blood with oxyhæmoglobin, so greatly weakens the anæsthetic inhalation by admitting a large proportion of inert nitrogen (four parts to one of oxygen), that imperfect anæsthesia is the result.

In Dr. Hewitt's apparatus, by the provision of pure oxygen (admitted through small holes from a second india-rubber bag attached to that containing the nitrous oxide) the needful 10 to 15 per. cent. of oxygen can be inhaled, whilst the remaining 85 to 90 per. cent. of tidal gas is the pure anæsthetic nitrous oxide.

¹ Kirke's "Physiology," p. 97, 12th edition.

By the proper management of this mixture a tranquil anæsthesia of several minutes' duration can be obtained with the face-piece continually applied, and the four desirable properties of *safety, rapid unconsciousness, muscular relaxation, and freedom from after-effects*, are secured for the performance of the surgical procedure and the benefit of the patient.

That nitrous oxide gas and oxygen is a perfectly respirable mixture, and a useful one under many conditions, even for the more severe operations if occasion require, I have abundantly proved at Charing Cross Hospital, where I have maintained anæsthesia in the operating theatre during the excision of a varicocele lasting fourteen minutes, the incision and thorough scraping of a tubercular abscess in the neck lasting six minutes, the examination of hip-joints lasting several minutes each, the dilatation of urethral strictures by bougies, and in numerous other suitable cases.

Dr. Hewitt has maintained an anæsthesia lasting twenty-four minutes, while an extensive exploration of the left hip-joint, which involved four incisions, was being performed.

In gynæcology I have had the opportunity of using this anæsthetic during the procedures described below :—

Illustrative Cases.—(1) A lady had a large abscess in the right breast a month after her confinement. She was in fairly good health and was nursing the child at the other breast. The surgeon told me the operation would not be a long one, so I chose gas and oxygen as the anæsthetic. A three inch incision was made, the whole cavity was thoroughly curetted and swabbed with strong antiseptics ; it was subsequently partly sewn up and drained with iodoform gauze. For seven minutes the patient was kept quietly snoring under gas and oxygen, of a good colour and perfectly flaccid ; she awoke half a minute after removal of the face-piece and apologised for going to sleep in the afternoon. There were no after-effects whatever.

(2) A lady who had been married two years suffered from severe dyspareunia, due to an almost imperforate

hymen. The surgeon proposed to remove the hymen. I gave gas and oxygen while she lay extended upon the couch, and in about sixty seconds she was drawn down and placed in the lithotomy position, the legs offering no resistance to complete flexion. During the operation, which lasted eight minutes, there was only the very slightest reflex movement of the knees, and after awaking she was able to stand up and help the nurse to fasten her clothing, and stated that she neither remembered nor felt anything, and had no sensation of nausea subsequently.

(3) A lady, aged 42, very nervous, pale, and somewhat emaciated, suffering from a localised pelvic collection of ascitic fluid, which required paracentesis and possibly further procedures, was highly alarmed at the idea of any operation, and especially of having ether or chloroform, but submitted readily when told it could be performed under "gas." This was not a protracted operation, but complete abdominal flaccidity was obtained for examination by palpation, which had previously been almost negative in value owing to tenderness and rigidity. There were no after-effects whatever, and at a subsequent similar operation, six weeks later, the same inhalation was used with equal success.

The patient should lie near to the edge of the couch so that the gas bags may hang free over the side (any plus pressure in the apparatus being undesirable). The administrator should stand behind her head, the gas bottles being on the floor a little to his right. It is well, in order to obtain the best results, that the inhalation should be conducted three or four hours after a meal; but unless to suit a particularly appointed hour there need be no abstention from the ordinary meals beforehand. Should the operation turn out to be somewhat prolonged or of rather severer nature than was anticipated, it is a very simple matter for the anæsthetist to supplement the gas and oxygen with ether from Clover's, or any other inhaler, without awaking the patient. After the perusal of the above cases it need

hardly be pointed out that we have in this mixture, for certain cases and under certain conditions, a highly valuable addition to the list of anæsthetic agents, and, more important still, one which combines many other advantages with an almost entire immunity from risk to life.

*CLINICAL CASES.*COMPLETE INVERSION OF THE UTERUS—DURATION A
FORTNIGHT—REDUCTION BY MANIPULATION.

By F. F. SCHACHT, M.D.

Mrs. L., aged 25, was attended in her confinement by Dr. J. Farr, to whom I am indebted for notes of her case. She was a neurotic, anæmic woman in her first confinement, and the pains came on at the full time on June 29, 1897. The presentation was normal, but the progress of the labour being very slow she was delivered with forceps. There was no difficulty in doing so, and the perinæum was not torn. She was given half a drachm of liq. ergot. directly afterwards. There was some little delay in the expulsion of the placenta, but it came away without any violent traction and was in no part adherent. There was no collapse or symptom of shock at any time. During the first two days after the confinement there were some strong pains which were looked upon as ordinary "after-pains," and which the patient herself thought were due to her not being able to pass her water.

Retention of urine, requiring catheterisation, lasted till July 6 (eight days), after which date she was able to pass water naturally. There was free loss but nothing excessive for the first ten days, then the quantity became less and the character of the discharge altered to a dirty-brown colour with an offensive odour. The patient had been douched with a perchloride solution all through. The temperature chart shows that at no time was the temperature over 100·4°F.,

and it varied between that and 99°F. during the first fortnight. In consequence of the nature of the discharge, Dr. Farr made an examination, and discovered a mass in the vagina which he diagnosed as the inverted uterus. I saw the patient with him on July 12, that is to say, the fourteenth day after the confinement. Beyond looking pale, and having a slightly brown furred tongue, there was nothing very noticeable about her. There was no local tenderness, and examination was quite easily and completely effected with very little discomfort to the patient—in fact, she herself did not think there could be anything sufficiently wrong to necessitate any interference, much less the use of an anæsthetic. The diagnosis, however, was quite clear, and under an anæsthetic the uterus was duly replaced. She had no after trouble, the discharge became sweet and gradually ceased, while the temperature sank to absolute normal.

There were several points of interest in this case. The severe pains which were treated as after-pains were in all probability due to the contraction of the uterus, though not in a normal manner. Whether the uterus itself contracted irregularly, and the inversion took place the day after the confinement when the pains began, or whether the fundus uteri followed the placenta it is impossible to say. It is clear that the absence of the contracted uterus per hypogastrium was not observed at the time.

On the other hand, the pains, which were sufficiently severe to be definitely treated, the retention of urine, and the œdematous condition of the fundus when noticed in the vagina, point to the inversion having taken place within a short time of the confinement itself.

There were no general symptoms resulting, and the only noticeable feature of the temperature was that it *kept* a little above normal.

It seems certain, then, that when I saw the case the uterus had been inverted for from twelve to fourteen days. It occupied the vagina, its surface was smooth except over the placental site, but there was no evidence of the placenta

having been adherent. It was only just possible to feel (with an anæsthetic) the tightly constricted cervix high up. The differentiation of the condition from that of polypus was easy. The patient being a spare woman there was no difficulty in determining the absence of the fundus above the pubes, in fact, I could by bimanual examination make the fingers of my two hands (one on the abdomen and the fore-finger of the other in the vagina) impinge on one another. I found however, what I have had occasion to notice before, that even under an anæsthetic I could not perform that pretty text-book test of this particular condition, viz., that of making a finger in the rectum impinge on a sound passed into the bladder and directed backwards over the cervix uteri. I indeed question whether this can be practically carried out unless there is some prolapse or procidentia of the uterus pre-existing. As to the actual reduction of the œdematous fundus, I found it necessary to introduce the whole hand in order to have the use of several fingers to manipulate, steady and knead the uterus. With the assistance of the other hand on the abdomen I was able after some minutes to push a portion of the cervical section of the uterus up through the constricting cervix. When the process was once started it went on rapidly, and finally the fundus itself jumped back into its proper position.

The uterus was douched and packed with gauze, which was left in for twenty-four hours.

REVIEWS.

THE HISTORY AND TECHNIQUE OF THE VAGINAL RADICAL OPERATION. By Prof. Dr. LEOPOLD LANDAU AND Dr. THEODOR LANDAU, of Berlin. Translated by B. L. EASTMAN, M.D., and A. E. GILES, M.D., &c. Baillière, Tindall & Cox.

This book is composed of a most careful and elaborate description of the operation of hysterо-salpingo-oöphorectomy, as carried out by these two able gynæcologists. A short description of their clinique appeared in the February number of this journal, from the pen of Dr. Macnaughton Jones.

In the preface the authors give their standpoint and maintain that "The justification of any surgical procedure must depend on its fulfilling two conditions: First, that the disease in question is not capable of cure by a simpler means, nor of spontaneous cure. Second, that the patient can be thoroughly and permanently relieved of her suffering by the proposed operation. If both conditions can be fulfilled the operation is thus legitimised, and in fact, in a surgical sense, forms the specific therapy for this particular disease. We regard the hysterо-salpingo-oöphorectomy, which we call the *vaginal radical* operation, as such an operation. This is what we make use of in the treatment of double inflammatory or suppurative disease of the tubes and ovaries, a class of cases which resists every other method of treatment. This advocacy of, and enthusiasm for, such a radical and severe operation may seem strange as coming from us, since in speech and writing we have so continuously warned against operative meddlesome-

ness, against intra-uterine injection, castration of neurotics, cervix amputation, and ventro- and vagino-fixation of the uterus. Compared with the radical extirpation of the entire internal genitiation, does not the removal of the adnexa by the less dangerous (?) cœliotomy represent an easier and more effective method? No, neither easier nor more effective. The mere removal of both inflamed or suppurating appendages, whether through the vagina or through the belly, with separation of adhesions to the intestines, or even with the introduction of oil into the peritoneal cavity, may give good immediate results, but the permanent cure does not follow. The women recover from the operation but not from their disease, because only one portion of the diseased structures is removed, while the real source and origin of the affection, the diseased uterus, is left behind to light up the old trouble again at any time. Such experiences, which we also have had after the simple removal of tubes and ovaries, have robbed these partial, really incomplete operations of their hold, for us, at least, and have demonstrated that it is better, for the patient, to complete the work in hand instead of doing it piecemeal. In fact, it is better in such cases not to operate at all than to do so imperfectly."

These are evidently the ideas pervading the authors' minds throughout their labours to develop a perfect operation, and they appear to be justified by their results, and by the fact supported by the translations, that the mortality of vaginal total extirpation is at any rate in their hands *less* than that of abdominal salpingectomy.

The first pages are devoted to a short historical account of the operations for the removal of the uterus, special reference being made to the works of Freund, Czerny, Bardenheuer, Doyen and Pean, with the latter of whom originated the removal of the uterus as a remedy for diseases of the adnexa. The authors consider on this head that the uterus should only be removed in case of bilateral suppuration and destruction of the adnexa.

In a chapter discussing the reasons for substituting the

vaginal for the abdominal procedure, the question of *permanent* cure is more gone into ; it is contended that only about 60 to 70 per cent. of the cases recovering from the operation of removal of adnexa by the abdominal route are permanently cured, or able to enjoy life, while the authors say, "On the contrary, a long series of observations enables us to assert positively that the post-operative secondary symptoms are less after total vaginal extirpation than after mere removal of the appendages. From a physiological standpoint, therefore, we have no scruples about removing the womb when operating for bilateral inflammation, or suppurative disease of the appendages, or even in case of bilateral ovarian tumours. In such cases the uterus is for us a negligible quantity, and apart from other considerations, is removed to secure drainage."

The other advantages claimed are less liability of wound to infection, no risk of ventral hernia, less interference with intestine, less shock, no necessity for drainage, rapid encapsulation about the gauze, and shutting off of peritoneum. The operation as developed by the brothers Landau differs from Pean's, chiefly it appears in the use of the clamps *only secondarily* for hæmatisis of the pedicles after all the parts to be removed have been enucleated, and the pedicles made. They prefer the clamps to ligatures, they do *not* close the abdominal cavity by bringing the edges of the peritoneum together, but allow the clamps and a strip of gauze to constitute the drainage. They advocate *morcellement* of one form or other in those cases (1) where the uterus is too large to allow of its passage through the pelvic outlet, (2) those in which the uterus is directly or indirectly fixed, and (3) in those in which there is great sponginess and pliability of the uterine tissues.

Morcellement again is divided into three degrees :—(1) by sagittal incision of the uterine wall, as a result of which the uterus may be sufficiently flattened and rendered mobile for enucleation ; (2) by complete median division of the uterus ; and (3) by piecemeal extirpation.

The special technique of the operation in its various degrees of difficulty is very fully dealt with, and with the assistance of some good illustrations is most clearly expounded. Ether is the favourite anæsthetic. Irrigation is absolutely dispensed with, even ichorous pus being simply wiped away with the sterilised gauge or sponges. Asepsis is throughout aimed at rather than antiseptis.

The main scheme of the operation lies in first separating the bladder very completely from the uterus, opening the anterior and posterior pouches, breaking down adhesions, emptying pus-cavities, drawing the appendages into the vagina and then, and not till then, clamping the pedicles thus formed. The uterus and appendages are removed. Any small bleeding points are secured, strips of gauze are carefully arranged and the patient is lifted into bed. The various indications for *morcellement* and other modifications of this type of operation that may be necessary are fully given. The clamps are left in for forty-eight hours. A catheter is used for the first three days. At the end of a week irrigation is allowed, and the patient is permitted to get up at the eighteenth day.

All the various details are well worth careful perusal, and, thanks to the capital illustrations and good translation, the reading proves as interesting as valuable.

THE MENOPAUSE AND ITS DISORDERS. By LEITH NAPIER, M.D., F.R.S.Ed. *The Scientific Press.*

This work has only so very recently come into our hands that it is absolutely impossible to do more than very briefly deal with it. We, however, very gladly accept anything that emanates from the pen of our *confrère*, Dr. Leith Napier, not only on account of his well-known capability as a writer and gynæcologist, but beyond this from his long and intimate association with this Journal and the Society of which it is the mouthpiece.

Recognising the menopause—so much mis-interpreted

by the popular term "change of life"—as a distinctly normal phase in the life of every woman, liable more than usual *to be complicated* by disorders, like the commencement of the menstrual epoch, because occurring at a particularly unstable period in the life of the nervous system, we must acknowledge to have been somewhat taken aback at the size of a work presumably dedicated to this subject alone, and felt that the time-honoured aphorism *Vita brevis est* had not been sufficiently appreciated by its author. Dr. Napier has, however, dealt very widely with his theme, and leads to the belief that the title covers a very valuable monograph, embracing very fully and thoroughly the etiology, pathology, diagnosis and treatment of most of the diseases peculiar to women from the medical aspect. The nomenclature of the various drugs (proved to be of service), mostly too of recent knowledge, is a distinct feature in the work. We can but be interested in the historical lecture, which shows that the divers theories as to the "causation of menstruation" began with Hippocrates (400 B.C.), and yet even now at almost the end of the nineteenth century physiologists are still far from being in accord. The varied views held through these eighteen centuries are more or less lightly sketched in the earlier pages of the work. We would just note that the "something mysterious" in menstrual blood depicted by Pliny, and the belief in the "unclean" condition of the menstruating woman, rendering her unfit to meddle with certain articles of food, is handed down by unbroken link to the educated housewife of to-day.

The chapters on "Anatomical" and "Physiological considerations," respectively, containing as they do Dr. Napier's own views, are very fully and ably discussed, and worthy of careful reading, but cannot be justly dealt with in a brief article such as this. When writing on "normal change of life," the author says, "it is not easy precisely to define what is to be regarded as normal in relation to the menopause," at the same time he leans very closely to the old-time dogma, that the menopause is a *disorder* of itself, and not a mere occurrence in a time of disruption. A careful and

close inquiry, extending over some years, amongst both hospital and private cases, of women whose ailments began subsequently to, and evidently distinct from, the menopause, makes us unable to believe that "the disorders of the menopause," such as are depicted in this work, for instance, have any right to the claim of being essentially due to this period of the female life; that they are not necessarily *propter hoc*; allied with it in point of time, helped on probably by its coincidence, but actually dependent upon some outside issue or accident, such as a life of standing, the gouty diathesis, a previous tendency to menorrhagia from intra-mural fibroid, or other causes, &c. To some extent these views are in accord with those expressed by Dr. Napier, but accepted by him with a lack of earnestness which is not in character with his usual writing.

Of course, if the influence of the menopause be considered to extend over seven years, or even a decade, as it is by most women, and not a few doctors, it would be quite impossible to say over what ailments it may not be presumed to have an influence. It is unfair to offer any criticism on Dr. Napier's ideas as to the many ailments due to this time; to do so would be to extend the article to a review on Modern Medical Gynæcology, and to meet from its readers with the rebuff that will probably be meted out to the author of the book that its title had been over-accomplished. We may, indeed, express some doubt as to whether fibrous tumours, or even malignancy—the latter especially—may be justly attributed to the cessation of menstruation, but rather to the general degenerative changes. The book is a monument of ability, knowledge, and thoroughness, and must greatly enhance the author's position not only in the special branch of medicine in which he has cast his lot, but as a high-class general physician. His *Collaborateurs*, doubtless, deserve the gracious thanks he awards them; it is in every way worthy of thoughtful study. From an æsthetic point of view, too, it would be an ornament to any practitioner's library; its publishers have achieved this result.

REPORTS OF SOCIETIES.

LEIPZIG OBSTETRIC SOCIETY, MARCH 29, 1897.

ZWEIFEL, who formerly preferred Busch's cephalothrypter to any cranioclast as not being liable to slip, and because it could be used for extraction, and from repeated experience could endorse all that Crede had said in favour of the instrument. It was, however, too long to go into the ordinary midwifery bag, and as it required a separate case the assistants in the Policlinic found it cumbersome. Since 1890 Anvard's instrument with three blades, called by him *l'embryotome céphalique combiné*, has sufficed for those cases for which otherwise the cephalothrypter would have been required. He thinks with Anvard that this instrument will be preferred to both cephalothrypter and cranioclast, but he has not found it adapted for application to the after-coming or decapitated head. The instrument put forward by Anvard in the early part of 1890 consisted of three blades, and was a combination of the basio tribe described by Tarnier in 1885, and his own two-bladed cranioclast, but not only the principle of the bores, but also that of having three blades belongs to Tarnier. The invention of Anvard was turning the two concave surfaces of the blades of the cranioclast towards each other, so that the basilar portion of the skull, the most resisting of all parts, could, by means of the approximation of their points by the screw, be crushed up from the foramen magnum to the face. Veit attributes the combination of the perforator with the cranioclast to Anvard. The skull may be opened by the terebellum, but Blot's perforator is in all cases a much better instrument to use. A glance at the sharp screw and furrows

of the terebellum forbids us to use Anvard's instrument on the after-coming head. It would be a work of art in so doing to avoid injuring the mother's soft parts; one can, of course, use the cranioclast if one has perforated otherwise, but the real advantage of the cephalothrypter was that it rendered perforation—a difficult and dangerous proceeding—unnecessary. After perforation, unless the pelvis is contracted, one needs, as a rule, no other instrument, but in a contracted pelvis the predicament is serious, and some instrument is much wanted to give one a grip of the head.

In order to make this instrument conveniently adapted for these cases I have modified Anvard's model by transferring the axis from the centre to one of the out blades in such a way as still to avoid the locking of the male and first applied female blade with their points directed to each other. After some years experience of the alteration, and several applications to the decapitated head, I am not inclined to think the application in this way so surely effective as Anvard believes, but rather prefer introducing the first female blade over the occiput, and so securing the head, then passing the second outer blade over the face and crushing the base with the latter. The operation is in this way much easier in *all* cases. The terebellum, when introduced into the skull, is used as a sound to find the foramen and fixed in it by a few turns, steadies the head for the application of the first external blade. The head can then be held fast or moved until the second external blade can be properly placed over the face. The second screwing up crushes the base, and by the second external blade the instrument is changed from a cranioclast to a cephaloclast. Zweifel has the blades fenestrated and more sharply indented, and made longer than Anvard's, and provided with a small interposing piece of the thickness of the axial part of the centre blade, to take the place of the latter between the external blades in applications on the after-coming head. Krönig would have the new instrument still longer and the lock further down. Döderlen approved of it as it remedied his former objection to Anvard's instrument.

GERMAN GYNÆCOLOGICAL SOCIETY, CONGRESS VII.,
LEIPSIC, JUNE, 1897.

RETROFLEXION AND RETROVERSION. *Centralblatt für
Gynäkologie*, No. 25.

AN important discussion took place upon the reports of Schultze and Olshausen on the above subject, in which much stress was laid on the following points:—In virgins the uterus may be retroflected, or there may be an ante-flexion of the retroverted uterus. Most puerperal retroflexions are relapses into a condition existing before the pregnancy. Whether the alleged troubles be due to the displacement or to its complications, the former should be corrected, as even if not at present the cause of trouble it may become so, and a retroverted uterus is more prone to prolapse, &c., if abandoned in its displacement. Pessary treatment should be first tried, and is, except under special circumstances, the best. Elisher condemned pessary treatment, however, and Theilhaber claimed that symptomatic treatment was all that was generally required. Vagino-fixation, except by its avowed partisans, was admitted to be undesirable in child-bearing women, but much faith was expressed in ventro-fixation, and especially in the Alexander Adams' operation.

SCHULTZE (Jena) defined the terms retroflexion and retroversion as referring to the direction of the corpus uteri only, and said the expression retrodeviation should be abandoned. He referred the etiology of these displacements to—(1) Relaxation of the normal attachments of the uterus, in a large number of cases due to pregnancy; cases by pregnancy, though virginal forms existed, and many cases even after childbed, were merely recurrence of a condition existing before it. Other circumstances leading to such relaxation were—re-absorption after posterior parametritis, habitual distension of the rectum, and abdominal pressure in the supine position (Küstner). (2) Fixation of the cervix, in a position further forward than normal in the pelvis, by cicatricial contraction. (3) Shortness of the vagina, especially of its anterior wall, from arrested development or senile atrophy. (4) Habitual fulness and over-distension of the bladder. (5) Gaping vulva, perineal laceration, and some rarer conditions.

Schultze does not think ovarian tumours ever cause retroflexion; a displaced uterus may more probably evoke ovarian disease, and correction of the displacement leads to the disappearance of symptoms of ovarian inflammation.

School-girls should be taught the importance of regularly emptying the bladder, and of proper care during menstruation. In childbed attention should be directed to providing for comfortable defæcation and to remedying delayed involution and any defects in the perinæum, even when slight.

Palpation, bimanual or simultaneously from vagina and rectum and the abdominal surface, is sufficient for diagnosis, but to detect complications and obstacles to reposition an anæsthetic is generally required. The use of the sound is to be avoided. When the uterus has been replaced without opposition, a properly constructed celluloid pessary should be introduced, and its efficiency ascertained some days afterwards. Cold clysters daily and ergot at the menstrual periods will assist in establishing the cure. During preliminary treatment of any complication the uterus should be secured in ante flexion by a tampon below the cervix. Obstacles to reposition are to be distinguished from obstacles to retention, a hollow Thomas' pessary may be inserted after the manual separation of the former, the latter require operative interference. If the floor of the pelvis cannot do its work, Schultze prefers operative treatment for the retroflexion also.

OLSHAUSEN (Berlin), who followed, declared that it was only in uncomplicated cases that the symptoms of these displacements could be determined, and that about half such cases gave no symptoms at all, local symptoms being rare, and bladder trouble quite exceptional. The most constant phenomena are sacral pains, headache, gastric pressure, bearing down, diminished capability, depressed spirits, and constipation—the result in the first instance of mechanical impediment, but afterwards permanent from intestinal atony. Irregular bleedings are generally due to metritis fungosa, and are not, except in recent puerperal cases, a consequence of the retroflexion. It is therefore justifiable to commence the treatment in all cases by curetting the uterus. Purulent cervical catarrh is an accidental complication; retroflexion at the most causes only a slight mucous secretion.

Hyperplasia of the uterus is the most important result of flexion; when metritis has existed for a long time with the displacement, neither it nor its results, dysmenorrhœa and sterility, are cured by reposition. After conception the pregnant retroflected uterus generally replaces itself; rigidity of its own walls or a deeply hollowed sacrum may interfere with its doing so. When the reposition is incomplete abortion may take place as late as the sixth to eighth month, but more commonly happens in the second or third.

Certain nervous and mental symptoms, including the tenderness at the angle in the posterior wall, the cause of dyspareunia and pain at stool, are shown to depend on the displacement by the fact that they disappear on reposition and return on the relapse of the uterus.

Women near the climacteric do not require any treatment; in younger ones interference is necessary, as troubles, even if absent at first, are to be feared later. Pessary treatment is to be tried as a rule, in case of operation for complicating affections of the adnexa; ventrofixation after separation of the adhesions is to be preferred. The risk of abdominal and vaginal operation is about the same. The Alexander Adams' operation as modified by Köcker, merits more extensive application in mobile retroflexions. In fixed retroflexion, ventrofixation is the best method, it is free from danger and certain of success. The best way is to fasten the cornua uteri to the abdominal walls by the round ligaments with silkworm gut, but the stitching of an extensive surface of the anterior wall of the uterus to the abdominal wall should be avoided—this objection does not apply to Leopold's method.

Vagino-fixation is allowable for mobile retroflexion if the stitches do not extend more than from 1-2 cm. above the orificium internum. Vaginal operations for the shortening of the sacro-uterine and round ligaments are theoretically correct, but not yet sufficiently proved in practice.

While Küstner has operated in 25 per cent., and Mackenrodt and Dührssen, at all events at one time, operated in 100 per cent. of all cases, Olshausen as yet has only done so in $\frac{1}{2}$ per cent., and he considered a decrease in the number of operations for retroflexion much to be desired.

DUHRSSSEN (Berlin), in a paper on the vaginal methods, upheld vagino-fixation even for fixed retroflexion, and declared that to ensure success the stitches should be inserted as high as the level of the insertion of the tubes.

BAUMM (Breslau) also eulogized vaginofixation; though he had had good results with the Alexander Adams' operation, he considers the other simple and effective, free from danger and without any injurious results. In eleven cases he had seen subsequent pregnancy with one abortion only; this abortion may have been due to the operation, as the fixation was too high.

WINTER (Berlin), in a paper on the clinical aspect of retroflexion, from examination of 303 women soon after their first confinement, and ninety others under treatment for the displacement, concluded that all the troubles were to be referred to the complications, and that of the latter endometritis, metritis, and perimetritis, at all events, are of independent origin.

Dysmenorrhœa, metrorrhagia, sterility and abortion, in the vast majority of cases, are due to complications and not to the displacement.

THEILHABER (Munich) denied that the so-called symptoms of retroflexion were due to pressure of the displaced organ, venous congestion, or reflex influence. As a rule their disappearance after correction of the position of the uterus was at the most temporary, and might be explained by other factors in the treatment, especially in hospitals (diet, rest, attention to the bowels, or psychic influences). Symptomatic treatment in his hands had given permanently good results, similar to such as were recently reported by Freudenberg from observations on 423 patients in the clinic of Leopold Landau.

In the discussion in these communications WERTH (Kiel) eulogized the Alexander Adams' operation, not seeing any improvement in the modification.

WERTHEIM (Vienna) referred to two new methods brought forward within the last eighteen months by him—the vaginal fixation of the round ligaments, successfully employed in twenty cases by Dürrssen, and vaginal shortening of the round ligaments simultaneously proposed by Bode of Dresden—and which in twenty-six cases has given excellent mechanical results.

VEIT attached little importance to the origin of the symptoms; the retroflected uterus sometimes gives rise to no symptoms at all, but it may cause trouble and in every case is disposed to further affections or complications. In treatment pessaries are the first method, but operations cannot be abolished because some people are inclined to do them too often. He himself preferred the Alexander Adams' operation, in which the principle was the important matter rather than any variation in detail.

KUSTNER (Breslau) was pleased at the general acceptance of the belief he stated ten years ago, that most puerperal retroflexions are relapses of a virginal condition. Retroflexion, when uncorrected, is so detrimental to the mechanics of the pelvic organs as easily to lead to prolapse. He deplored the want of faith of the public in pessaries; he found it easier to persuade a woman who had been wearing an inefficient pessary to submit to an operation than to make a fair trial of another pessary. In the labouring class, who can bestow on the instrument neither the proper care nor adequate control, it is necessary to operate oftener after the climacteric. He preferred total extirpation to the Alexander Adams' operation.

MARTIN (Berlin) referred to his observation that in retroflexion the ovary could preserve its normal position in the fossa obturatoria, as an argument against the displacement being a cause of ovarian tumour. He did not consider adhesions a reason

against colpotomy, nor had they ever caused him serious difficulty; but it was of the greatest importance to determine by previous examination under an anæsthetic whether one could operate by the vagina or should choose the abdominal way.

ELISCHER condemned pessary treatment, which rarely did more than make the woman able to work for a time, was much complained of by women and their husbands, and was only proper where a radical cure was out of the question, and even in complicated cases this was the exception. He had now done fourteen cases by his own method (*Cbt.*, No. 10, 1897), and recently examined three done more than a year ago. The women were quite free from trouble, and their uteri mobile in ante-flexion.

LEOPOLD (Dresden) said that he passes two stitches, 0.5 cm. apart, through the wall of the uterine body, removing them on the fifteenth to sixteenth day. In two cases, faultily done, there was trouble in child-birth; in all others the pregnancies were not interfered with, and even after repeated pregnancy the uterus has preserved its position.

FRI TSCH (Bonn) had found ventrofixation free from danger and efficient. Like Leopold he stitches a small portion (10 pfennig gross) of the fundus to the peritoneum and fascia in the lower angle of the abdominal wound with catgut, carefully avoiding the rectus muscle. Vaginofixation he never performed in women who were not past child-bearing. Recently he had preferred the Alexander Adams' operation, which, provided no relapse took place, appeared to him to be the best method.

CHROBAK (Vienna) said that pessary treatment could restore all the capability for work, but was technically more difficult, more troublesome, and less profitable than operative methods. He had tried vaginofixation sixteen times and would never do it again. He recommended Olshausen's ventrofixation, or else the shortening of the round ligaments, and strongly condemned the practice of commencing the treatment of every retroflexion by curetting the uterus.

PFANNENSTIEL (Breslau), in fifteen cases complicated by prolapse, had performed vaginal shortening of the round ligaments with thoroughly good results; in women not past child-bearing he does this operation; in those who are so, vaginofixation; but for the last two years, in cases of mobile retroflexion, the Alexander Adams' operation.

NEUGEBAUER (Warsaw) described a prolapse operation of Krajewski's (Warsaw), who, after freeing the pyramidalis muscle, passes it through the eye of the needle, with which he transfixes the anterior wall of the uterus from below upwards. Two cases were successful.

OLSHAUSEN, replying, pointed out that before Küstner drew

from the discussion a confirmation of his idea that most retroflexions dated prior to the first confinement, he must prove that a vast majority of all cases were of puerperal origin. He was very glad that not a single word had been said throughout the discussion upon massage, which could not correct any retroflexion.

SCHULTZE was glad that the discussion showed such agreement with his report and his earlier writings. Correction of the position of the uterus was followed by the disappearance, not only of profuse menstruation, the result of disturbed circulation in the uterus, but also by that of anticipating menstruation, from disturbed circulation in the ovaries.

No operation gave the uterus a position as closely resembling the normal one as the pessary, but it was important to form the pessary to fit the case; the best material was celluloid.

The Society are to meet next in Berlin, myoma and puerperal infection being the special subjects for report.

J. J. M.

OBITUARY.

WILLIAM THOMPSON LUSK, A.M., M.D., LL.D.

WE have with much regret to record the death, at the age of 59, of Dr. W. T. Lusk, President and Professor of Obstetrics, Gynæcology, Diseases of Infants and Clinical Medicine, at Bellevue.

Dr. Lusk's name as an obstetric authority has for many years been held in high esteem, and his treatise on "The Science and Art of Midwifery" remains as a striking testimony to his cultured capacity for hard work and careful observation. His loss at a comparatively early age will be much felt in New York especially, by a very large circle of private and professional friends.

Dr. Lusk was a Foundation Fellow of the British Gynæcological Society, and was elected to the post of vice-president in 1887.

We are indebted to the *American Journal of Obstetrics* for the following details of his career.

William Thompson Lusk was born in Norwich, Conn., on May 23, 1838. He entered Yale in 1855, but left college at the end of the year. From 1858 to 1861 he studied medicine in Berlin and Heidelberg, finally taking his degree in medicine from Bellevue Hospital Medical College in 1864. At the beginning of the Civil War he returned to this country and entered the Federal Army as a private in a New York regiment, passing through the ranks of lieutenant and captain to that of assistant adjutant-general. After his graduation in medicine he again went to Europe for eighteen

months of further study at Paris, Vienna, Edinburgh, and Prague. He received the honorary degree of A.M. from Yale in 1877 and of LL.D. from the same university in 1893. On his return from Europe in 1868 he was appointed professor of physiology in the Long Island College Hospital, a position which he held until 1871. During 1870 and 1871 he was also lecturer on physiology in the Harvard Medical School. From 1871 until his death he was professor of obstetrics, gynæcology, diseases of infants, and clinical midwifery at Bellevue, and seven years ago, after the death of Isaac E. Taylor, he became its president. At the time of his death he was a visiting gynæcologist to Bellevue and St. Vincent's Hospitals, and consulting surgeon to the New York Maternity Hospital, the Skin and Cancer Hospital, and the New York Foundling Asylum. He was an ex-president of the New York State Medical Association, the American Gynæcological Society, and the New York Obstetrical Society; a corresponding fellow of the Edinburgh and London Obstetrical Societies; and one of the founders of the International Congress of Obstetrics and Gynæcology. For two and a half years he was editor of the *New York Medical Journal*, being succeeded by the late James B. Hunter. His treatise on "The Science and Art of Midwifery," the great merit of which was quickly recognised by the profession, was his crowning work.

Tall, slight in frame, active, with a pleasing, mobile face, a musical voice, somewhat diffident with strangers, genial and warm-hearted, frank almost to bluntness, he possessed a rare fascination of manner and person that made him deservedly popular. As a teacher he had few equals; as a surgeon he was careful, judicious, and pronouncedly conservative.

Dr. Lusk was twice married and twice a widower; he leaves two sons and three daughters. The elder son is professor of physiology at Yale; and the younger, chief of the surgical clinic at Bellevue.

JAMES GREIG SMITH, M.A., M.B.C.M.Aberd., F.R.S.E.

Since our last issue, British Surgery has sustained a great loss in the death of Mr. Greig Smith, of Bristol, at the early age of 43. It appears that he attended a consultation, involving a carriage drive, on Monday, May 24, that he later on in the day became ill and died of pneumonia early on Friday, June 1.

That Mr. Greig Smith should have achieved the high position in the surgical world that he deservedly occupied at such an early age is in itself a striking testimony to the capacity, vigour and originality which he brought to bear upon all his work. He was keenly interested in his professional labours, and possessed many special faculties, such as great perseverance, self-reliance and marked aptitude for careful observation, which with a most fortunate capacity of expressing his ideas, stamped all his sayings and writings with a marked individuality.

The Fellows of the British Gynæcological Society have had many opportunities of judging of him for themselves, when he attended and took part in the proceedings of the meetings of the Society, in which he at different times held the offices of member of council and vice-president.

Mr. Greig Smith after a successful career at Aberdeen, became house-surgeon to the Bristol Royal Infirmary in 1876. He was elected to the post of junior surgeon in 1879 and has been closely associated with all the advances in that well-appointed Hospital, as well as all medical and scientific developments that have constituted a marked feature in the history of Bristol during the last twenty years. He was one of the founders of the *British Medico-Chirurgical Society Journal*, and has all along taken a prominent part in bringing it to its present condition of excellence.

By the medical world in general he will be chiefly remembered for his work on Abdominal Surgery, and the estimation in which this work has been held is clearly shown by the fact of its having already reached a sixth edition. His other contributions to medical literature are too

numerous to mention here in detail, but they are all characterised with the same thoroughness and literary finish. It is only natural that so sudden and unexpected an end to such a career should come as a special shock to his friends and fellow-workers at Bristol. To give some idea of the esteem in which he was there held, we quote from a long and most appreciative "In Memoriam" notice, which appears in the June number of the *Bristol Medico-Chirurgical Journal* :—

"Greig Smith has been taken from us with such startling rapidity that it is difficult to realise that for us there is an end of that marvellous activity, that fertility of resource, that originality of matter and manner which ever characterised him, and far outside the membership of the Bristol Medico-Chirurgical Society will often come the sigh 'for the touch of a vanished hand and the sound of a voice that is still,' and we would fain believe of him that

"Somewhere, out of human view,
Whate'er [his] hands are set to do
Is wrought with tumult of acclaim.'

"Greig Smith's early training in general literature must have been particularly thorough, and this he was ever careful to foster. His omniverous reading, which extended from the ancient classics to the latest work of fiction, gave him the power of being a most charming companion. He was a brilliant conversationalist and could talk well on an endless variety of subjects, often delighting his intimate associates with sparkling, if sometimes caustic, epigram and simile, or with forcible repartee. Notwithstanding the attention he paid to literature and his own special work, he found time for indulging his intense fondness for country life, and entered into its pursuits with the same zest that he showed for all the other things to which he devoted himself. He had a small country house at Burnett, near Keynsham, in Somersetshire, to which he often betook himself when opportunity offered, and where he was always glad to see his friends. With a limited experience he had become an

excellent shot, and of late years he had become passionately absorbed in golf. He was a persistent smoker and rarely missed the chance of a cigarette.

"Among the recreations of his leisure time the plastic arts had a great fascination for him. Some of his figures and some medallions of his friends have great merit. In art matters generally he was an acute critic, being able to sum up, with great terseness and point, the merits and demerits of the subject under consideration. He had from time to time done many excellent pen-and-ink portraits and caricatures.

"Strongly imbued with the scientific spirit, and hating in his work anything that was not scrupulously exact, Greig Smith could find no atom of sympathy for that which savoured of ignorance, or stupidity, or carelessness, and he never hesitated, even if it caused some temporary annoyance to those from whom he differed, to expose in the most uncompromising manner any departure from what he considered to be the essential duty of all seekers after professional truth. Like most men with strong force of character, Greig Smith was not free from the defects of his qualities, and although those who had seen much of him may freely grant, in the words of him whose work he knew and loved so well, that

'He had twa faults, or may be three,'

yet each one of us who was acquainted with his worth will fervently add two other lines from the same verse :

'Heav'n rest his saul, whare'er he be !
Is th' wish o' mony mae than me.'"

SUMMARY OF GYNÆCOLOGY, INCLUDING OBSTETRICS.

GYNÆCOLOGICAL.

COPIOUS INJECTIONS OF SALINE SOLUTIONS IN HÆMORRHAGE AND INFECTIOUS DISEASES. By ANDRÉ CLAISSE, House Surgeon of Paris Hospitals. *Journal de Médecine de Paris*, page 496. Extract from the *Revue de Chirurgie*.

OPERATIVE PROCEDURE.—Those injections in large doses of saline solutions were at first exclusively made through the veins. The necessity of a very rapid introduction in cases of acute anæmia or even of cholera constituted a sufficient indication for this method; but owing to the rapidity of absorption through the cellular tissue many practitioners have employed the hypodermic method, which presents the advantage of a greater simplicity and a less delicate field for the operation.

(1) *Intravenous injection*.—This operation, generally as easy to perform as bleeding, is naturally practised in man at the level of a superficial vein, probably one of the saphenous veins, or more often any of the veins in the bend of the elbow. This requires a certain number of instruments: a large funnel, or any kind of recipient provided at its inferior extremity with an india-rubber tube about 5 ft. long (1.50 m.), to which is adapted the cannula of the medium-sized trocar of Potain's apparatus; scissors, cannulated sound suture needle, dissecting forceps, two hæmostatic forceps, silk sutures, syringe of 1 cc. (m. xv.). All these instruments should be passed through the autoclave at 115° C., or boiled in a basin for a quarter of an hour.

The skin of the region is then disinfected carefully, the line of incision is anæsthetised by means of a hypodermic injection of 1 cc. (m. xv.) of a 1 per cent. solution of hydrochlorate of cocaine. The vein is now exposed by a parallel incision of 4 to 5 cm. (1½ to 2 ins.) and raised by means of a cannulated sound. Two ligatures which will serve to tie the two ends of the vein may now be passed underneath it. The vein is raised by means of dissecting forceps, and one half of its circumference incised. The cannula of the vessel containing the solution is allowed to run so as to exclude any air which may have been

found in it, and without stopping the flow the instrument is introduced into the open vein. The recipient is then raised so as to obtain a slow and regular flow; 40 to 60 cm. (16 to 24 ins.) of elevation will generally answer the purpose, when it will take about ten minutes to introduce 1,200 grammes (about $42\frac{1}{2}$ ozs). The flow is stopped by pinching the tube before the level of the solution has reached the inferior portion of the recipient, the cannula is withdrawn, and the superior ligature tied, the incision is closed by two sutures, and the wound dressed with iodoform. The whole operation lasts about twenty minutes. It is absolutely painless.

It is not infrequently necessary to repeat the operation once or several times, and when this is the case another vein may be selected, or the same one by enlarging the cutaneous incision by 2 or 3 cm. (about $\frac{1}{2}$ in.) superiorly, and introducing the cannula a few centimetres above the first opening.

(2) *Injection into the cellular tissue.*—The *technique* here is most simple; the same apparatus can be used by substituting Dieulafoy aspirator needle for the cannula, or again, a sterilizable syringe of 20 cc. (about 5 drams) or Potain's apparatus with forcing pump may be employed. The region is aseptized. After providing against the introduction of air, the needle is inserted from 6 to 8 cm. (about 2 to 3 ins.) into the subcutaneous cellular tissue in some part where the latter can easily be distended (such as the epigastrium, the flanks, the lateral thoracic walls, the lumbar or scapular regions, the thigh); some practitioners insert the needle deeply into the gluteal muscles. The solution is then slowly introduced, the recipient may be raised about one metre high, a bag of liquid is thus formed distending the skin; absorption is accelerated by working up the part with the hand; 400 or 500 grammes can thus be introduced in a few minutes in one single injection; the needle is then withdrawn and the small superficial wound produced by it closed with a drop of collodion. The same thing is repeated in other places until the desired quantity is injected. Absorption is effected with considerable rapidity, and the distension of the cellular tissue produces very little pain. These two processes are not infrequently employed simultaneously.

(3) *Bleeding with Transfusion.*—In cases of infection it has been proposed by some authors to precede the injection by a bleeding of 250 to 300 grammes (about $8\frac{1}{2}$ to $10\frac{1}{2}$ ozs). Barré has obtained good results in two cases of uræmia and one case of pneumonia by injecting a quantity of liquid equal to that of the blood which he withdrew simultaneously. Moreover, a copious injection appears to be indicated after bleeding; this has been the practice of Bosc in cholera and in pneumonia, and of Tuffier in tetanus.

The solution.—As it is impossible to have constantly at hand some human serum in sufficient quantity, and the toxic properties of the serum of animals preclude its employment, it becomes necessary to have recourse to liquids prepared artificially. The first quality required in those liquids is that they should produce the least alteration in the histological elements of the blood.

The following solutions may be selected:—Distilled water 1,000 grammes, chloride of sodium 7 grammes; or, distilled water 1,000 grammes, chloride of sodium 7 grammes, sulphate sodium 7 grammes.

The solution should be clear, without any foreign body, and should be sterilised by being passed through the autoclave at 120° C., or be boiled for twenty minutes. It should be injected at the temperature of the body, and as it loses a few degrees in manipulation, it should be poured into the recipient at the temperature of about 40° C. (104° F.)

Rapidity of the injection.—An injection of 1,500 grammes (about 53 ozs.) in the course of ten minutes does not produce any symptom of intolerance, therefore a rapidity of 2·5 to 3 (namely 3 cc. per minute for each kilo. of the subject) in these conditions is not toxic.

Quantity.—It does not appear useful to inject more than 1,500 grammes at one sitting; the phenomena of re-action to be mentioned hereafter manifest themselves with this dose; but it is sometimes necessary to repeat it several days in succession. Lejars has injected successfully as much as 7 litres in seven hours, and 26 litres in nine days. These enormous doses, however, are probably not often required, and 4 litres in twenty-four hours would appear, at the present stage of our knowledge, to be the maximum dose in ordinary cases; it is principally in serious cases of acute anæmia that this limit may be considerably exceeded.

Indications.—In cases of acute anæmia the indications for this treatment have long been recognised; when, after profuse hæmorrhages, produced by accidental or operative traumatism, there is a tendency to syncope, which may endanger the patient's life, there should be no hesitation, and the best method is then the intravenous injection, as being the most rapid in its effects. Subcutaneous injections would be sufficient in less severe cases; 1½ to 2 litres may be injected with prudence to avoid any reflex congestion of the viscera.

This method is indicated in cases of surgical infections and intoxications, acute peritonitis, puerperal infection, tetanus, convulsions, shock, &c., as soon as the temperature rises above 39·4° C. (103° F.), unless it is considered only as a passing reaction, but particularly when the general symptoms indicate

a serious pathological condition. The usual local treatment should also be had recourse to.

The practitioner being the sole judge of the gravity of his case will use his discretion for intervention; the intravenous or the subcutaneous injections in similar quantity give about the same result; it is usually necessary to repeat the injections twice or even more in the same day, but until a better knowledge of the effect of these injections has been obtained, it is perhaps better to limit the quantity to 3 litres in a day, each injection not exceeding $1\frac{1}{2}$ litres, as this appears to be sufficient to produce a favourable effect when this is obtainable, and trust to further experience for more precise information on the most useful dose.

In these various cases it may be useful to combine the two methods of intravenous and subcutaneous injections. In very severe cases it may not be necessary, after a first fall of temperature, to wait for a new rise of it for the administration of another injection, which may then be of a small quantity.

Now comes the question of a previous bleeding. This method has given splendid results in the hands of Barré, Bosc, and Tuffier, but is its usefulness incontestible? Bleeding seems really favourable to eliminate at once a certain quantity of toxin disseminated in the blood; but may it not be injurious in depriving the system, at the very moment it is called upon to react, of a certain number of elements useful in the struggle for recovery of cells which might be useful in the process of phagocytosis? This question is not yet solved.

Contra-Indications.—There are no contra-indications in cases of acute anæmia, in traumatic or operative shock; it is the only means of treating efficaciously real moribunds, and it should be used.

In cases of infection it is necessary to watch the condition of the kidneys, heart and lungs. There may be danger in injecting rapidly a large quantity of liquid in a subject whose deteriorated kidneys could not eliminate the excess of water introduced, inasmuch as the vascular system, being then more or less disturbed, is more easily distended the weaker the heart is. Many cases of uræmia, however, have been greatly benefited by copious injections, but it is advisable to act more slowly, and with discretion preferably by the subcutaneous method. If there be œdema of cardiac origin or arterial tension, a greater prudence will be required, as a case of death reported by Chauffard in the *Bulletin Médical* may possibly be imputed to an intra-venous injection administered under such conditions.

In children, the dose should naturally be proportioned to the age and weight of the subject: injections of 10 cc. ($2\frac{1}{2}$ drachms) multiplied in the course of the day, have for a long time been

employed in the treatment of children for gastro-intestinal affections. The general condition of the patient must be carefully observed. Hutinel has drawn the attention to congestions produced by this method around tuberculous foci, and even to the generalisation of a local tuberculosis. Incipient tuberculosis therefore would appear, even in the adult, to demand great circumspection.

Copious saline injections should evidently be employed with great discretion and prudence, like any other powerful therapeutic agent; but the profession possesses in them an agent which, being logical in theory, and borne out by experimentation and clinical facts, can produce the most happy results in cases which hitherto have appeared to be above the resources of medicine.

The translator ventures to suggest that in many cases, if nature's apparatus be used instead of Potain's, and the saline solution is introduced by the stomach, it will in all probability have the same effect and will be attended with less risk. The solution could also to a considerable extent be introduced per rectum.

The translator suggests that, in many cases, the administration of the above mentioned saline solution in divided and repeated doses by the stomach or rectum, or both, at a slightly higher temperature than that of the body, would be of the utmost benefit, and, in all probability, would have the same effect as an intravenous injection without the accompanying risk of the latter; except only in those cases of severe shock, as from copious hæmorrhage accompanied by fainting, &c., where life is in immediate danger necessitating the most rapid means of reinvigoration. But, in various kinds of infection, acute peritonitis, or if, having administered an intravenous injection, it is desired to keep up the effect after the immediate danger has passed off, or after considerable hæmorrhage not accompanied with immediate danger, the administration of the solution as above suggested would be most serviceable. This treatment also suggests itself in phlebitis, some forms of anæmia, rheumatism, and many other diseases in which the blood or blood vessels are concerned. The action of the saline solution seems to be twofold, first, to increase the volume of the blood and enable the heart to contract more powerfully upon a full ventricle than upon a partially empty one; secondly, to fluidify the blood and increase its osmotic properties, whereby the capillaries are more easily penetrated, to convey the nutriment of the blood to the tissues of the body.

P. Z. H.

SENILE CHANGES IN THE OVARIES. By DR. OTROSCHKEVITCH (St. Petersburg Dissertation). *Vratch*, 1896, No. 5.

Dr. Otroschkevitch comes to the following conclusions:—

(1) The lessening of both ovaries in old age arises in connection with increased growth of fibrous connective tissue and the predominance of this over the degenerating follicles.

(2) The disappearance of the epithelium covering the surface of the ovaries which occurs in old age cannot always be put down to separation during preparation of microscopic specimens, but must rather be taken as one of the true changes in the senile ovaries.

(3) Desiccation of mature and wholesale degeneration of the primordial follicles forms one of the chief and most important changes in senile ovaries.

(4) Hyaline degeneration of the arteries and fibrous tissue progresses with age, and in very advanced age striking examples of this degeneration are found.

(5) Fatty degeneration of the cellular skeleton occurs fairly often, and is evidently dependent upon the deficient nutrition of the ovary.

(6) A direct connection between degeneration of the vessels and diminution in function of the ovaries is not substantiated, for the ovary becomes limited in function when there are still but few vessels affected by degeneration and therefore at a time when its nutrition, is but little altered. The nervous system plays the chief part in the complex process.

THE SUTURE OF THE ABDOMINAL WALLS AFTER SECTION OF THE ABDOMEN. By F. KEHRER (Heidelberg). *Centralblatt für Gynäkologie*, October 31, 1896.

The method described has been used by him since 1894.

In girls and nulliparæ and sometimes in parons, the white line forms a thin membrane lying in the sagittal axis. The other condition is rare in girls and common in women who have had children, here the membrane lies in the coronal axis. It is evident that the membrane is much easier stretched laterally than from before back. The rectal muscles oppose the widening of the white line. The sheaths of the recti also limit the separation of the recti by the oblique and transversalis muscles. Hence, three things are necessary for perfect union of abdominal wounds:—(1) formation of the non-vascular layer between the recti in the sagittal and not in the coronal plane; (2) preservation of the recti; (3) preservation of their sheaths.

It is requisite to have these aims in view before making the incision. The skin and subcutaneous tissue are divided down to

the white line, and then the sheath of one of the recti is cut through close to the white line, the muscle is spared and so is the sheath of the other muscle. When the white line is stretched laterally, the white line is itself cut through in the middle. The transversalis fascia and the peritoneum are then divided, and the sub-peritoneal fat is removed for about half an inch round to prevent its interfering with union. Sterilised silk sutures with a curved needle in each end are used for suturing.

The peritoneum and transversalis fascia and the posterior layer of the cut sheath are drawn out with forceps, the central part of the rectus is pushed aside, and the anterior layer of the sheath is seized and caught with catch forceps together with the posterior layer. Another forceps picks up the white line and adjacent unopened sheath of other rectus. One needle is then passed from within out through peritoneum transversalis fascia, of the two layers of the opened rectal sheath, and then carried across to the other surface of incision and passed through sub-cutaneous cellular tissue, and the skin. The second needle is passed through peritoneum, transversalis fascia, unopened sheath (sparing the muscle) and then carried like the first one across to the other side through cellular tissue and skin. This causes a figure of 8 suture. The lower loop is drawn tight first and then the upper loop is drawn tight and tied. The sutures are passed from above down at intervals of one-third of an inch and are left in for ten to fourteen days.

The resulting union is excellent.

CHANGES AFTER OPERATIVE REMOVAL OF THE OVARIES AND
LIKEWISE AFTER NATURAL ATROPHY OF THE OVARIES IN OLD
WOMEN. *Munchener Medizinische Wochenschrift*, Sept. 8, 1896.

These patients complain above all of heaviness and flux of blood to the head, noises in the ears and vertigo, sensations of itching and pricking in the skin, sudden heats in the head with flushings of the face and neck and marked perspirations; their mental disposition is often much changed, at times they lose all interest in life or they suffer from causeless terrors.

For the removal of these afflictions so far the custom has been to use baths, blood letting, laxative aperients, and very rarely galvanisation of the sensory nerves; but as the results of treatment have not been very successful, it is highly desirable that further research should be made in this direction.

Seeing that the congregation of symptoms after removal of the ovaries has great resemblance to the complex symptoms met with after removal of the thyroid glands, Werth (Kiel) had the notion to use the same treatment for both conditions; in other words to feed the patients with the substance of the (desiccated)

organs, that is, in this case with ovarian tissue. With this view he requested Merck to prepare tabloids from the fresh ovaries of cows (Ovariin-Merck), and these were given to the out-patient cases in Werth's clinic and the observations were made by Dr. Mond. The patients each took six to 10 tabloids a day. There were no unpleasant accessory symptoms in any case, although careful observations were made of the action of the heart, the temperature, the urine, &c. Often after two or three days when twenty-four to thirty tabloids had been taken, a certain improvement came on, for instance, the groundless fears disappeared; after ten to twelve days (after about 100 tabloids or about twelve grammes of desiccated ovaries) all the morbid conditions vanished almost completely.

As a test of the action of these tabloids, similar tabloids to all appearance and taste were given to the patients. The second tabloids contained no ovarian matter, and in every case but one they had no curative action, and when the real tabloids were renewed the symptoms quickly improved. Hence there is no possibility of ascribing the beneficial results of the latter to suggestion. The weak side of this treatment is that it is only temporary and does not prevent recurrence of the symptoms.

To keep up the curative effect it is advisable to continue the tabloids but in less numbers, about four a day. Seeing the morbid symptoms which arise after removal of the ovaries, it would be well if surgeons spared them as much as possible, or at any rate portions of them, for it is also seen clinically that small bits of ovary are sufficient to prevent the onset of cachexia ovaripriva.

F. E.

POSTERIOR VAGINAL CÆLIOTOMY IN TUBERCULOUS ASCITES. By LÖHLEIN. *Therap. Wehnschr.* xxxviii., 1896.

It is a question whether it is not better to open the abdominal cavity from the posterior vaginal vault rather than by abdominal laparotomy in dealing with tuberculous ascites. Löhlein has done so twice with good results, draining Douglas' pouch for the first few days with a strip of iodoform gauze. The advantages of the method are the complete and fundamental evacuations of the fluid and the facility of drainage. The question whether, when necessary, the diseased adnexa can be removed quite as safely in this way as by incision of the abdominal walls, is one of great importance that cannot be absolutely affirmed. Löhlein insists that in any case provisional care should be taken, so that if the vaginal way prove uncertain or dangerous, the operator can proceed to abdominal laparotomy without material delay.

POSTERIOR VAGINAL CÆLIOTOMY. By MACKENRODT. *Volkmann Samml.*, No. 156, 1896. (*N.Y. Med. Rec.*, July 11, 1896.)

In operations on the uterus and its adnexa, Mackenrodt has, since September, 1894, opened the posterior vaginal vault and Douglas' pouch. He gives details of the first 22 cases, including 3 for perimetritis chronica adhesiva, 4 for perimetritis chronica adhesiva with hydrosalpinx and ovaritis, 5 for the removal of purulent appendages, 6 tubal pregnancies, and 3 ovarian cystomata (2 multilocular). The *technique* of the operation is fully described. After curetting the uterus the vaginal vault is opened by a transverse or longitudinal incision, or, in the case of large tumours, by both combined. Two fingers are introduced into the peritoneum to examine the pelvic organs, while counter-pressure is applied by the other hand on the surface of the abdomen. Adhesions and agglutination are then separated bi-manually or under view, diseased adnexa drawn into the vagina and removed after ligature or clamping. The wound is diminished by interrupted suture and drained by a strip of iodoform gauze. All the cases recovered. From Mackenrodt's point of view, apart from "primitive" experiments, and more recent isolated operations, this is to be accepted as a new method, but there is nothing really new in the *technique* or cases; among others Laroyenne, at Lyons, has been operating on pelvic suppurations and extra-uterine pregnancies by the posterior vaginal vault, and Mackenrodt's new method is practically the same as Pryor, of New York, advocates and illustrates with 53 cases.

RETROFIXATIO-COLLI *versus* VENTRO-VESICO-VAGINO-FIXATIO. CORPORIS UTERI. By PAGENSTECHER. *Hon.-Schr. f. Geb.u. Gyn.*, iv., 2., p. 115, 1896.

Considering Mackenrodt's vesico-fixation unreliable, because if pregnancy occurs the excavatio vesico-uterina, obliterated by the operation, is restored, and relapse easily happens, Pagenstecher has returned to retrofixatio-coli uteri, and his method aims at completely disposing of the floor of Douglas' pouch and at deriving the backward traction from a point so high that the cervix comes to lie a little below the transverse axis of the uterus.

He divides the posterior vaginal wall to the extent of from 5 to 6 cm., opens Douglas' pouch, and while the uterus is forcibly kept in anteversion, stitches the posterior vaginal wall to the posterior wall of Douglas' pouch, working on a finger introduced into the rectum. Five stitches are introduced in this way, a higher portion of the rectal wall being pressed forward for each one in succession. Finally a thin strip of gauze is shoved into

the abdominal cavity, and the vagina, especially the anterior fornix, is firmly plugged. The tampon and gauze are removed in forty hours. After three weeks a Thomas' pessary is introduced, but the stitches are not removed for six weeks. Up to the present the result was good in the single case operated on.

TOTAL ABDOMINAL EXTIRPATION OF THE UTERUS: ITS TECHNIQUE. By L. LANDAU (Berlin). *Centralbl. für Gynäk.*, No. 23, p. 689.

The comprehension of the entire ligament *en masse* in one ligature, and still more the dragging of the pedicle down into the vagina after the removal of the adnexa is, in Landau's opinion, a drawback to Doyen's method, and to remedy this evil he has, on the suggestion of his assistant, in two cases modified the operation in the following way: Without any preventive clamps or ligatures he amputates the myomatous uterus at the locus of election in the cases referred to by incisions from the insertions of the tube to the bases of the broad ligament; the spouting vessels are secured separately, and the slit in the peritoneum as neatly stitched up as the external skin after amputation of a limb or a mamma. In both instances he obtained an excellent result, and somewhat confidently asserts that this is the one proper method of abdominal total extirpation of the uterus. J. J. M.

PAN-HYSTERECTOMY. By M. A. O'SULLIVAN, L.R.C.P., &c. *Australian Medical Gazette*, November 20, 1896.

Mr. O'Sullivan, after having been a strong advocate of Schröder's operation for supra-vaginal amputation with ligature of the uterine arteries and intra-peritoneal treatment of the stump, gives entire approval to the great change that has occurred during the past few years in favour of complete extirpation. He has devised a vaginal forceps and director, which he thinks have assisted him very much. The steps of the operation as he performs it are as follows:—A Sim's speculum was passed and the vagina thoroughly scrubbed with a 1 in 500 perchloride solution. The cervix was now grasped with the "combined vaginal forceps and director," the blades of which were firmly locked, and the patient returned to the supine position. The abdomen was opened by a free incision, extending from above the umbilicus to within a short distance of the pubis, and the tumour "delivered"—this being very materially facilitated by an assistant steadily pushing the tumour and uterus towards the abdominal cavity, on the forceps and director, within the cup-shaped end of which the cervix sits, firmly held; and here, too,

I would claim that there is a decided advantage in being able to dispense with—in many cases—the ponderous prehension forceps, generally used for elevating uterine fibroids through the abdominal wound during operation, and so prevent the annoying hæmorrhage which sometimes takes place from forceps punctures of such tumours. The broad ligaments were divided between two rows of ligatures, and the usual peritoneal flaps dissected down off the anterior and posterior surfaces of the uterus with blunt scissors and finger. The uterine arteries were now easily picked up on an aneurism needle and secured—outside the reflected peritoneum. The vagina was now fearlessly opened by running a knife around the cervix, within the hollow of the vaginal director, which was still steadied by an assistant and easily felt. Now, instead of suturing the peritoneal flaps after the manner of Martin, Treves, Smith, and others, and as I have done myself in seventeen cases, I passed about half a dozen long silk sutures through the edges of the peritoneal flaps and drew them into the vagina, as suggested by Bowreman Jessett, thus completely closing the peritoneal floor. With a Sim's speculum the vagina was now well packed with iodoform gauze, firm traction being kept up on the flap sutures during the packing. The abdominal wound was closed with deep silkworm-gut and superficial horse-hair sutures. I may be allowed to say here that whenever I have thought it advisable to drain the peritoneal cavity, after pan-hysterectomy, I have generally done so with a Keith's tube, passed per vaginam, between the edges of the peritoneal flaps. In a few cases I have used a strip of sterilised iodoform gauze, with the best results. The bowels were freely opened on the second day with mag. sulph., supplemented by irrigation of the lower bowel. The packing (vaginal) was removed on the fourth and the sutures on the eighth day. The patient made a perfect recovery. F. F. S.

ON (ARTIFICIAL) STRICTURE OF THE VAGINA (FOR PROLAPSE).
By FLATAU. *Mon. Schr. f. Geb. u. Gyn.*, p. 177, 1896.

The operation recently recommended by Freund for the cure or retention of extensive prolapse, especially in old women, by inserting a number of silver wire sutures so as to draw the vaginal walls closer together, has had little permanent success. This Flatau attributes to the excessive constriction causing necrosis, to infection (to which the entrances and exits of the rings gave admission), and to the mode of suture itself. He has, therefore, adopted the following plan: at the three points where the suture next the portio is to enter and emerge, he raises a small flap of the vaginal mucosa, and then, after carrying the wire round the vagina in and out of these points with a slightly

curved needle, tightens and secures this first suture and stitches the flaps in their places with catgut. The other two wire sutures are introduced in the same way. After two or three days in bed the patients (3) were discharged and are reported well.

REPORT ON 109 CASES OF RADICAL OPERATIONS IN CHRONIC PURULENT OR INFLAMMATORY DISEASE OF BOTH ADNEXA. By L. LANDAU. *Berl. kl. Wchns.* xxxii., 38, 1895.

Only one of these women died (from putrid peritonitis); of the other 108, many of whom had been ill for years, every one was relieved from great suffering and enabled to follow her occupation.

The bladder and ureter were injured in one case, and the intestine in five, but with the exception of one fistula of the colon through the vaginal vault, every accidental injury was remedied by immediate or subsequent operation.

RADICAL ABDOMINAL OPERATIONS FOR INFLAMMATORY DISEASE OF THE ADNEXA. By BLIESENER (Cöln). *Hon.-Schr. f. Geb. u. Gyn.*, pp. 15-144, 1896.

Leaving the uterus behind in operating for inflammatory disease of the adnexa is often followed by such disadvantages in the form of fluor, hæmorrhage, exudation from the stump, or displacement, that since April, 1895, Bardenheuer, to make the palliative treatment of severe troubles or proved suppuration in the adnexa as complete as possible, has extirpated the uterus by laparotomy. His method consists in the formation of a peritoneal roof to close the pelvic wound, which he drains by a vaginal tampon. The advantages of this radical laparotomy are the more assured completeness of the operation and the facility in preventing hæmorrhage, the exclusion of the wounded surfaces from the peritoneal cavity, which is a preventive of adhesions or infection, and the avoidance of accidental injury to the neighbouring organs. Anamneses in tabular form are given. Of forty cases operated on two died (one from peritonitis, the other from injury to a ureter and secondary extirpation of the kidney); all the rest recovered, and with the exception of two hysterical cases are relieved from their sufferings.

THE STATICS OF THE PELVIC ORGANS, ESPECIALLY IN REGARD TO VAGINAL PROLAPSE AND ITS CURE—CYSTOCELE-ELEVATION. By M. v. ARX. *Corr. Bl. f. Schw. Aerzte.*, 13, 14, 1896.

After a very complete essay, with illustrations, upon the statics of the pelvic organs, the author, in order to remove the

static element that plays the principal part in the origin of prolapse of the vagina, proposes to make the prolapsed wall of the bladder the point of attack in operating.

An incision is made round the portio somewhat more extensive in the anterior vault than in the posterior, the bladder detached and made as movable as may be, so that by the formation of an anterior fold and its elevation on the stump of the cervix, the cystocele completely vanishes. The posterior wall of the bladder is now seized in two or three transverse folds and stitched fast to the cervix. V. Arx considers this method of folding the floor of the bladder and elevation of the cystocele, as the simplest and surest operation, and the one which is best adapted to all cases of vaginal prolapse.

THE VALUE AND TECHNIQUE OF EXPLORATORY CURETTAGE. By GESSNER. *Ztschr. f. Geb. u. Gyn.*, p. 307, 1896.

The question whether a sure diagnosis of malignant disease can be acquired from small fragments of tissue cannot be decided on theoretical grounds, but practical experience leads Gessner to believe that the method is useful. In the Berlin University frauen-klinik, a diagnosis of malignant disease of the corpus uteri has been made, and the organ extirpated in fifty-eight cases since January 1, 1890. In eleven carcinoma could be distinctly felt through the dilated cervix, in the three others, in which the finger could reach the new growth, the disease was sarcoma. In forty-one the diagnosis was made by exploratory curettage. In other words for the last five years diagnostic palpation of the uterine cavity in malignant disease has practically been abandoned. In four instances the diagnosis was wrong, in so far that the carcinoma did not affect the corpus but the cervix uteri. The details of the other thirty-seven cases are given, and in all of them the justice of the diagnosis made on the ground of the exploratory curettage was verified, and after discussing the four cases of carcinoma of the cervix supposed to be of the corpus, Gessner concludes that greater scope must be given to curettage of the cervix for diagnostic purposes.

In regard to the *technique*, Gessner in the first place insists on the observance of every antiseptic precaution. Anæsthesia is useful though not always indispensable. In order to curette the entire cavity it is often necessary to dilate the cervix, so that the curette, and subsequently an irrigation catheter, can glide easily into the cavity. He prefers the curette to the sharp spoon. No decided conclusion can be drawn unless the whole interior has been carefully scraped and every fragment so removed examined under the microscope. The fragments freed from adherent blood are, after taking off superfluous water, placed in

absolute alcohol, set in liver, and sections made with a razor stained with alum carmine. Exploratory curettage in the way described, Gessner asserts, is without danger and easily performed, and yields most reliable information, not only equal to those given by palpation, but better, inasmuch as by it malignant growths can be recognised, which could never be detected by palpation.

ON INTESTINAL PARALYSIS AFTER OPERATIONS IN THE ABDOMINAL CAVITY. By ENGSTRÖM (Helsingfors). *Zeitschr. f. Geb. u. Gyn.*, xxxvi., p. 399.

Nothing certain is yet known of the causes of the intestinal paralysis without co-existent peritonitis which occurs after operations. Olshausen believes that when the bowel is paralysed, death is the result of the reabsorption of toxic matter derived from the decomposition of the contents of the bowel. Other authors attribute the condition to acute or virulent septic infection. Engström has had four fatal cases of intestinal paralysis after operation, which ran their course without any peritonitis, and these cases have strengthened him in the opinion that all the symptoms of intestinal paralysis may occur without there being any reason to suppose that infection occurred during the laparotomy. It is true that he is not able to offer any satisfactory explanation for the existence of this condition. He incriminates the insult to the mesentery during the operation, the generally injurious effect of this upon the system, the action of saline laxatives and a "nervous" disposition on the part of the patient. All these causes often exist without inducing paralysis of the intestine, so that we are not much wiser. Treatment is on the whole rather hopeless; he attributes most importance to nourishing the patient, if necessary by the rectum, and to stimulation.

ON THE TEMPORARY INTRA-ABDOMINAL COMPRESSION OF THE AORTA OR OF ITS LARGER BRANCHES IN CERTAIN PELVIC OR ABDOMINAL OPERATIONS. By LENNANDER (Upsala). *Centralbt. f. Gynäk.*, No. 17, p. 450.

In operating for a bilateral ovarian cyst with manifold adhesions, Lennander got his assistant to apply digital pressure to the aorta for three-quarters of an hour. The hæmorrhage was arrested and the tumours and uterus were extirpated without any loss of blood worth mentioning. When the compression was removed the patient lost colour, and her pulse, which till then had been good, became small and frequent, but recovered after injections, subcutaneous, of camphor, and intravenous of normal salt solution. Recovery was delayed by pneumonia, but was ultimately complete.

With the view of such temporary compression, Lennander has made a special study of the relations of the arteries in the peritoneal cavity, and believes that the common iliac, the hepatic, the splenic and the renal arteries can be thus compressed quite satisfactorily for operations on the organs to which they minister.

ABDOMINAL SECTION FROM THE STANDPOINT OF INTRA-PERITONEAL DRAINAGE. By J. G. CLARK (Johns Hopkins Hospital). *Amer. Jour. of Obstetrics*, April, 1897, pp. 481 and 650.

In a comprehensive review of 1,700 cases of laparotomy, the author comes to the conclusion that the indications for the use of intra-peritoneal drainage will become more and more limited. The presence of a drain in the peritoneal cavity disturbs normal circulation, excites inflammation in its immediate neighbourhood, and by setting up a rampart of adhesions, &c., prevents a large part of the peritoneal surface from sharing in the work of absorption; moreover, drainage may constitute a source of infection and favour the formation of abscess and hernia, and even a strip of gauze has the same disadvantages as a tube of glass or india-rubber.

As conditions in which drainage may properly be employed, Clark points out cases of appendicitis with diffuse inflammation, abscess or perforation; limited foci of suppuration in the pelvis in which evacuation by the vagina is to be preferred; and operations for intestinal fistulæ, in which gauze should be used, and for purulent peritonitis, when free openings should be made on both sides as well as in the median line.

Finney has lately reported five cases of purulent peritonitis he treated successfully in the Johns Hopkins hospital, by wiping away all exudation and pus, and mechanically cleansing the entire peritoneal investment of the abdominal cavity and intestines, and closing the abdomen without inserting any drain. If drainage be not employed, it is more desirable to observe, if possible, more strictly all the rules for the asepsis of the hands, instruments, and field of operation, and for the absolute arrest of hæmorrhage, the avoidance of any stretching or bruising of the tissues, the closing of the abdominal cavity during the operation, and the protection and preservation of the serosa. It is also well to flush the cavity with the normal salt solution, and to encourage resorption by introducing one or two pints of the same solution into the peritoneum before completely closing the abdomen, and by elevating the pelvis. The beneficial action of this so-called postural drainage is illustrated by cases in which it was employed as a prophylactic measure; it is not indicated when peritonitis exists.

Baldy (*Amer. Gynæcol. and Obstet. Jour.*, of May, 1897, comes to the same conclusions as Clark; he does not employ drainage in more than from 5 to 10 per cent. of all his laparotomies. In a discussion of the Philadelphia Obstetric Society, March 9, 1897, Norris and Noble supported the same opinion, while Price adhered to the established practice as to drainage.

ON THE DESTRUCTION OF THE ENDOMETRIUM BY HOT IRRIGATION. By SCHICK (Prague). *Centralbl. für Gynäk.*, No. 23, p. 695.

In cases of obstinate uterine hæmorrhage, not otherwise to be relieved except by extirpation of the organ, such as the so-called preclimacteric, and the flooding associated with myomata, Schick, after some experiments on extirpated uteri, has tried in four instances to destroy the endometrium by boiling water introduced into the uterus through a Bozemann-Filtsch catheter, the vagina and vulva being protected by constant irrigation with ice-cold water. The irrigation was kept up for half a minute only. The first case was unsuccessful, the other three turned out well. Schick admits that he has not yet succeeded in completely destroying the endometrium, but attributes his failure to the shortness of the time during which, for prudential reasons, the application was applied, and recommends his method for further proof.

HERNIA OF THE OVARY IN CHILDHOOD. By MENCIÈRE. *Revue mens. des mal. de l'enfance*, June, 1897.

Compared with adult cases hernia of the ovary is extremely rare in children, and in addition to 4 cases of his own the author has only been able to find 7 others recorded. All 11 were inguinal, 9 were on the left and 2 on the right side, and in one instance the uterus as well as both tubes and ovaries lay in the sac. Cure resulted in 10 cases, in 8 by radical operation, in 2 by bandaging.

PROLAPSUS UTERI COMPLETUS NEONATI: SPINA BIFIDA. By KRAUSE (Warsau). *Centralbl. f. Gynäk.*, No. 16, p. 422.

The child of a healthy II.-para at full term, exhibited at birth a spina bifida, a prolapse of the rectum, and complete prolapse of the uterus. It succumbed to the effects of an operation on the spina bifida, fourteen days after birth and eight after the intervention. No autopsy could be obtained. Four cases of prolapse of the uterus in the newborn have been recorded by Quisling, Schaeffer, Heil and Monro, and all children had also spina bifida. Krause supposes that in such condition the nourish-

ment of the pelvic organs is impaired, the fatty tissue disappears, and the entire apparatus for the support of the uterus is relaxed.

J. J. M.

VAGINAL CYSTOCELE, ITS ANATOMICAL CAUSATION AND ITS CURE. By Dr. GERSTUNG. *Centralblatt für Gynäkologie*, February, 1897.

He finds that the bladder normally rests on the vesico-vaginal fascia, which is somewhat cup-shaped, and cystocele is the result of either laceration or extreme stretching of this fascia. Hence the chief indication for the removal of vaginal cystocele is to re-establish the vesico-vaginal fascia in its entirety. This, he says, is easily done by suturing the torn or over-extended fascia.

As a rule the great majority of specialists, when dealing with cystocele vaginalis, make use of anterior colporrhaphy, under the impression that it is the anterior vaginal wall which sustains the bladder in its place.

The author is against this operation as not being suitable to the anatomical conditions. He recommends that the anterior vaginal wall be split in its whole length, and then the part of the bladder wall which prolapses should be pushed towards the interior of the bladder, then by means of numerous sutures the paravesical cellular tissue or fascia should be drawn together so as to form a long fold or plait, which will form a sure support for the vesical wall; the vaginal incision is closed, and thus finishes off this uncomplicated operation.

F. E.

EINE NEUE BEHANDLUNG DER GEBARMUTTERFIBROME, A NEW TREATMENT OF UTERINE MYOMA. (VON PROF. DR. HOWITZ, in Kopenhagen). *Der Frauenzarl*, 1897, Heft 4, April.

In a short paper the author considers the effect of lactation in producing involution of the uterus after parturition and its power in causing diminution or absorption of myomata when these are present. He describes two cases of large intra-mural myoma both treated at the same time, and both complicated by pregnancy. Both patients were confined of living children, and both made a satisfactory recovery from the "lying-in." One of the patients suckled her child, and in four months her tumour had diminished in size. The other patient had but little milk and did not persevere with lactation; in this case the myoma was unchanged. From the consideration of these and similar cases, from the consideration of the physiological effect of suction of the nipple in producing contraction of the uterus and of prolonged lactation in occasionally causing atrophy, the author has been induced to try artificial suckling or aspiration of the nipple in

patients who are not pregnant, but who are suffering from myoma. Seven cases are reported: in four of these a secretion of milk was induced by the aspiration, two refused to respond to treatment, and in one case the time had been too short for a definite report. In three of the cases the tumour had decidedly decreased in size; in three the measurements remained the same; in only one was there any marked decrease of hæmorrhage. The aspiration in these cases has been limited to "from five to ten minutes morning and evening," but the author's intention is that such aspiration should, if possible, imitate closely the process of natural suckling, and that accordingly the aspiration should occupy a longer time, and be more frequently repeated.

J. W. T.

A METHOD OF PREVENTING VAGINAL PROLAPSE FOLLOWING ABDOMINAL HYSTERECTOMY. By J. M. BALDY, M.D.
American Journal of Obstetrics, January, 1897.

Baldy points out that in this operation the support given by the broad ligaments to the vagina is lost, allowing of an immediate slight dropping down of the upper part of the vagina. This loss of support to the broad ligaments is at times greater than the gain made by getting rid of the weight of the uterus. In order to prevent this tendency towards prolapse of the vagina, Dr. Baldy advises a variation in the technique of the operation as practised by him, and which has proved, so far, eminently satisfactory. The points to be observed are, "To include both the ovarian artery and the round ligament in the first ligature on each side of the uterus; to place this ligature as near the pelvic wall as possible, so as to leave but a small amount of broad ligament behind with the stump; to place but one other ligature on each side of the uterus, this ligature to include the uterine artery with as little other tissue as possible, this leaves both broad ligaments open; to amputate the uterus as low on the cervix as possible." According to the diagrams, which are remarkably clear and instructive, the sutures in the broad ligament are now inserted, and must include the sides of the cervical stump. "The effect of tying these sutures is to lift up the stump of the cervix together with the vagina, and to bring it in close approximation with the ovarian stumps, doubling the opened broad ligament together." Where the whole of the cervix is removed, the sutures must pass through the upper end of the vaginal wall instead of through the cervical stump.

Adhesions take place throughout the full extent of the doubled broad ligament, and most surprisingly firm support is given from above to the vagina. Over the remaining uncovered portion of the cervical stump the peritoneum is drawn by a con-

tinuous catgut suture. In the cases operated on in this way the ultimate results continue to be good.

RAPID DECREASE IN THE SIZE OF A FIBROID TUMOUR OF THE UTERUS FOLLOWING ITS TREATMENT BY ELECTRICITY. By A. LAPHORN SMITH, M.D., M.R.C.S., of Montreal. *American Journal of Obstetrics*, February, 1897.

The case reported by Dr. Laphorn Smith is briefly as follows: The patient, aged 32, had had profuse menorrhagia for years past, and at the time she was seen her periods were lasting over a fortnight, and the blood came in large clots. There was "a solid tumour as large as the foetal head, in the left and anterior wall of the uterus," it rested on the pelvic brim and extended above the umbilicus. From August 29 to September 27 of last year she received ten applications of the galvanic current, positive intra-uterine, beginning with fifty and gradually increasing at each *séance* till 150 milampères were given. At the end of September the tumour had shrunk to half way between the umbilicus and pubis. There was also a marked improvement in her general health. From September 27 to October 29, she received sixteen more applications, generally of 150 milampères, each lasting five to ten minutes. By this time the uterus had shrunk to below the level of the pubis, and the patient could take walks of two or three miles without fatigue. She had two periods during the applications, the first lasted four days, and the second only three. The patient then declared she was cured and went home. Her subsequent history has been excellent.

SHALL WE LEAVE THE UTERUS IN SITU IN EXCISION OF THE ADNEXA? By E. F. FISH, M.D. *American Journal of Obstetrics*, February, 1897.

Dr. Fish maintains that he who argues that with the tubes and ovaries removed the uterus has no function, and should also be excised, is theoretically correct but practically wrong. The chance of destructive disease engrafting itself on the non-pathologic uterus is nil, and there is no valid argument for removing a normal uterus because its tributaries are effaced. He does not believe that a woman ever became insane from the mere loss of any or all the organs of reproduction. "It is not the loss but the knowledge of the loss which may lead to mental depression and insanity." Excision of the adnexa for myoma uteri is only applicable for the small interstitial myoma which causes hæmorrhage, and does not produce symptoms of pressure. He considers myomectomy a procedure of great value for certain of the benign fibromata, and when too much

of the uterus is not involved it should be done. Castration is disapproved of; on the contrary, he says: "I believe that whenever the case is not inoperable, we should resort to myomectomy or hysterectomy." In cases of gonorrheal pyosalpinx he has had good results by thorough curettement and cauterisation, together with excision of the tubes and ovaries. The same obtains in cases of puerperal origin.

After discussing the procedure in tubercular affections of the uterus and in prolapse he draws the following conclusions:—

(1) That whenever it becomes necessary to excise the uterine adnexa, if the uterus is sound, leave it.

(2) Whenever we excise the tubes and ovaries, and the uterus, though in a pathologic condition, in our judgment will yield to treatment, leave it.

(3) Whenever it is necessary to do an abdominal hysterosalpingo-oöphorectomy, and the cervix is healthy, do a supra-vaginal amputation, as this leaves the vaginal vault intact.

(4) Whenever it is necessary to do a supra-vaginal amputation suspend the cervix to the stumps of the broad ligaments, or anchor it to the abdominal wall, to prevent prolapsus vaginae.

(5) Whenever it is necessary to do a general ablation, and the cervix uteri is unsound, take the entire organ, because of the danger of carcinoma.

(6) Whenever a subserous or interstitial myoma can be removed without too great damage to the uterus, do a myomectomy and leave the organ.

(7) Whenever we excise the appendages and leave the uterus, ventral fixation is not an unsurgical operative conclusion.

A CRITICAL REVIEW OF 1,700 CASES OF ABDOMINAL SECTION FROM THE STANDPOINT OF INTRA-PERITONEAL DRAINAGE. By J. G. CLARK, M.D. (Resident Gynæcologist in the Johns Hopkins Hospital). *American Journal of Obstetrics*, April, 1897.

This is a most exhaustive and able paper and it is a matter for regret that only a short summary can here be included.

By clinical observation the conditions supposed to demand drainage have gradually reduced from a formidable number to a comparatively small one, and Dr. Clark is convinced that this number is still too large. A more minute attention to the smaller details of surgical operation, with a greater reliance upon the ability of the peritoneum and general system to eliminate infectious matter, will overcome many difficulties which are now incorrectly supposed to be obviated by drainage. There is firstly an instructive part devoted to the general history of drainage. Twenty-five years ago it was the accepted theory

that septicæmia after operation, was actually produced by the absorption of a decomposing fluid into the blood from the peritoneal cavity. Hence arose the belief in the necessity of drainage. In reality it is not the fluid in the peritoneal cavity which is dangerous; the danger lies in the fluid being a possible culture medium for infectious micro-organisms. In spite of many methods of drainage, success has not been complete; it is not the methods that are wrong, but the principle.

In the Gynæcological Report of the Johns Hopkins Hospital for 1890, the conditions demanding drainage were summarised as follows :

(i.) To provide a means of escape for the serous oozing which follows the separation of broad adherent surfaces.

(ii.) To guard against septic peritonitis from retained pus from the tube, ovary, or other viscus.

(iii.) To remove fluid in cases of persistent capillary hæmorrhage.

(iv.) To provide against hæmorrhage in cases of hysterectomy when the pedicle is dropped.

(v.) To drain the peritoneal cavity, and starve out the disease in cases of chronic or tuberculous peritonitis.

As a consequence of all these indications 73 per cent. of the next hundred cases were drained; 44 per cent. of these showed some form of organism in the tube, and therefore the possibility of infection. Robb and Ghristney, who made large numbers of experiments, came to the conclusion that "As the drainage tube is thus a source of infection, we believe it explains the cause of death in many instances where the patient has died of sepsis on the third or fourth day after operation." As a result of these investigations fewer cases were drained, and in the fourth hundred after 1890, only 7 were drained. Numerous accidents were attributed to the use of the tube. Suppuration of the abdominal wound—prolonged convalescence—post-operative abscesses in the track of the tube, localised abscesses at the bottom of the tube requiring a second operation, and lastly, hernia of the cicatrix. "Later," Dr. Clark says, "the great frequency of the infection of the drains, as demonstrated by bacteriological examinations carried out by Dr. Miller and myself, and the rarity of living pyogenic organisms in the diseased structures, caused almost a complete abandonment of drainage as a measure of removing infectious matters from the peritoneal cavity." There then follows an abstract of Muscatello's paper in *Virchow's Archives*, on the structure and functions of the peritoneum, in which it is shown that (1) the surface of the peritoneum is equivalent to that of the skin; (2) it has an enormous absorbing function, taking up in an hour three to eight per cent. of the entire bodily weight; (3) under the influence of very toxic or

irritant substances an equal transudation into the peritoneal cavity may take place. Also it is there shown that—

(i.) Fluids and solids may pass through the endothelial layer of the peritoneum, the fluids in many places, the solid particles only through the spaces in the diaphragm.

(ii.) The minute solid particles are carried into the mediastinal lymph vessels, and glands, and thence into the blood circulation, by which they are distributed to the abdominal organs and lymph glands.

(iii.) Large quantities of fluids may be absorbed by the peritoneum in an astonishingly short time.

(iv.) The leucocytes are largely the bearers of foreign bodies from the peritoneal cavity into the mediastinal lymph glands.

As the result of the experimental study of infection of the peritoneum by Grawitz, it has been shown that—

(i.) The introduction of non-pyogenic organisms into the abdominal cavity, either in small or large quantity, or mixed with formed particles, produce no harm.

(ii.) Great quantities of organisms, which ordinarily produce no disturbance, may give rise to a general asepsis if the absorptive ability of the peritoneum is impaired.

(iii.) The injection into the peritoneal cavity of pyogenic organisms may be quite as harmless as the non-pathogenic varieties.

(iv.) The introduction of pus-producing cocci produces a purulent peritonitis (a) if the culture fluid is difficult of absorption; (b) if irritating material is present which destroys the tissues of the peritoneum, and thus prepares a place for the lodgment of organisms; (c) a purulent peritonitis will certainly be produced if a wound of the abdominal wall is present which forms a nidus for the infectious process.

As bearing especially upon the question of intra-peritoneal drainage it is particularly to be noted that any irritant material which destroys the tissues of the peritoneum prepares a place for the lodgment of organisms and the starting place for peritonitis. The experiments of Waterhouse and Halsted, in which they produced an artificial strangulation of parts of the intestine and omentum, and then introduced pyogenic organisms with the invariable production of peritonitis, closely simulate the surgical conditions which may exist in drainage-tube cases. The effect of long continued contact of a foreign body with the peritoneum is to cause a destruction and exfoliation of the endothelium with loss of function. Any material which is impregnated with chemicals sufficient to be of the least value as a germicide, if left in contact with the peritoneum, will produce greater irritation than a simple sterile body.

A very clear chart which Dr. Clark has constructed from

the 1,700 abdominal cases is sufficient to prove that local healing is retarded. The percentage line of local suppuration conforms in the most remarkable way to the rise and fall of the drainage line. Autopsy after autopsy has shown that all forms of drainage are frequently valueless in removing fluids from the abdominal or pelvic cavity.

Within a few hours the general peritoneum is cut off from all participation in the work of absorption by the wall of adhesions round the drain, and "the latter is about as effective compared with the absorbing ability of the peritoneum, as a tiny brook to a great river in draining a lake." The work is thrown upon an agent which can only remove the fluid from a small pocket. The bacteriological investigations of Robb and Ghristney have proved that infection may occur through the drainage tract itself.

A NEW METHOD OF SUTURING THE ABDOMINAL WALL IN CELIOTOMY. By CHARLES P. NOBLE, M.D., of Philadelphia.

In Dr. Noble's paper on a new method of suturing the abdominal wall the various layers are sutured separately, and especial attention is paid to the aponeurotic layer. The upper surface of the aponeurosis of one side is carefully cleared from the overlying subcutaneous tissue; the under surface of the aponeurosis of the opposite side is similarly cleared from the subjacent rectus muscle. The latter is then brought over, superimposed upon, and sutured to the former. The advantages claimed for it are: clean fibrous tissue is brought into contact with clean fibrous tissue, and not with subcutaneous fat, and not so much loss of aponeurosis, as in "the mattress" suture.

TREATMENT OF ACUTE SALPINGITIS. By WILLIAM P. CARR, M.D., of Washington. *American Journal of Obstetrics*, June, 1897.

In his paper on "Acute Salpingitis," Dr. Carr states emphatically that a systematic treatment of acute salpingitis in the early stages will result in resolution in a large majority of cases, and that, failing in this, we should not attempt to perform a radical operation during the acute stage, but should, by safe palliative measures, tide the patient over the acute stage and perform a radical operation, if it is still necessary, upon a chronic condition, without septic fever, and with comparative safety. His systematic treatment involves: (a) absolute rest in bed; (b) good nursing; (c) the administration of plenty of nutritious digestible food, so as to enrich the blood serum and so support the leucocytes that are so important an agent in bringing about resolution; (d) local treatment per vaginam. Thorough

uterine drainage should be at once established preferably by the Outerbridge drainage tube. Vaginal douches of hot water, continued from twenty to thirty minutes. Curetting with a blunt curette when there is abundant or offensive discharge; (e) hot fomentations or turpentine stupes to the abdomen. Should these measures fail and a large collection of pus sooner or later distend the tube, a safe palliative procedure is to tap and drain per vaginam, either with a bistoury or trochar and cannula. This palliative measure can, if necessary, be followed at the proper time by radical operation.

POST-OPERATIVE HÆMORRHAGE FROM SLIPPING OF THE LIGATURE AFTER REMOVAL OF DISEASED TUBES AND OVARIES AND HOW TO PREVENT IT. By A. LAPHORN SMITH, B.A., M.D., M.R.C.S.Eng., of Montreal. *American Journal of Obstetrics.*

The paper by Dr. Lapthorn Smith on "Post-operative Hæmorrhage from Slipping of the Ligature" is chiefly concerned with the diagnosis of shock, sepsis and hæmorrhage. "When shock is present it is always and only while the patient is on the table or soon after; and if she does not die, and ordinary means of restoring the circulation and raising the temperature which has fallen below normal have been employed, her condition will steadily improve." Not so with sepsis and post-operative hæmorrhage. In both these conditions the patient leaves the table in a favourable condition, and it is only after an interval varying from a few hours to a few days that either of them appears.

The only guide by which to recognise concealed hæmorrhage is the pulse, and especially sudden changes in it. The pulse suddenly bounds upward as the outpour of blood from the cut vessel quickly empties the arterial system, or, at least, lowers its tension until the pulse at the wrist almost disappears. There are—sighing, gasping for breath, and restlessness; and if this condition comes on twelve to twenty-four, or even rarely thirty-six hours after the operation, it is certain that this accident has befallen her. If the hæmorrhage is not great there will be peritonitis, as the peritoneum endeavours to enclose it by organised lymph and a slight rise of temperature. If the hæmorrhage is severe the temperature will fall.

Sepsis comes on later, the rise in the pulse rate is much more gradual, and the vomiting of greenish, and, eventually, coffee-ground material, makes its appearance. To prevent the slipping, Lapthorn Smith recommends "throwing a medium silk ligature round the ovarian artery, as it can be easily felt running along the upper border of the broad ligament about an inch from the pelvic wall, before even proceeding to ligate the pedicle

composed of the ovary and tube." After tying the pedicle in the ordinary way, in two halves, the ends of the ligature which has been tied under the uterine end of the tube are passed round under the knot of the ovarian pedicle and securely tied again *en masse*.

TREATMENT OF PUS IN THE PELVIS. By WILLIAM A. B. SELLMAN, M.D., of Baltimore. *American Journal of Obstetrics*, June, 1897.

In Dr. Sellman's paper on "Treatment of Pus in the Pelvis," he says that if the pus is located near the surface of the abdominal walls, we should drain through these walls by section, unless we suspect that the tissues are bound together by old peritonitis or cellulitis, then the vagina would be the safer channel.

He reports a case of pyosalpinx, in which abdominal section was done and the tube reached without difficulty. "An opening was made, followed by the escape of six ounces of fetid pus. After thoroughly washing the cavity, tincture of iodine was swabbed into the pus cavity. A soft rubber tube was introduced for drainage, and the abdominal wound closed. Patient made an excellent recovery."

Collections of pus above the pelvic brim should be evacuated through the wall of the abdomen. Pus collecting posteriorly to the uterus can be reached with greatest safety through the vagina.

J. F. J.

RESTORATION OF THE PERINÆUM, VAGINA, URETHRA AND RECTUM. By PÉAN. *Acad. Med., Rev. Obst. Intern.*, April 1, 1897, No. 82, Suppl., p. 73.

In a primipara, 28 years of age, the perinæum, recto-vaginal and vesico-vaginal walls had been destroyed from the result of an extremely difficult labour, the fœtal head having remained four days upon perinæum, was only extracted somewhat *in extremis* with violence. No hope was entertained of her recovery, she nevertheless slowly improved, and her health was comparatively restored. She consulted M. Péan, who found the perinæum replaced by cicatricial tissue perforated in two places, the anterior opening being somewhat rounded, the posterior having a transverse direction corresponded to superior portion of the rectum. Both apertures reached a cloaca, which was the common receptacle of the menses, the urine and fæces. By introducing the finger into that cavity, M. Péan could easily ascertain the disappearance of the recto-vaginal septum, but could not reach the uterus or the bladder. He therefore united the two openings in the perinæum by a median incision when he

could observe that the base and neck of the bladder and the urethra had disappeared. Behind the bladder could be felt the cervix uteri, which was small, covered with cicatrices, and whose cavity was so small that it would not admit the smallest catheter. A remnant of the recto-vaginal septum was still discernible behind the cervix uteri, forming a kind of posterior *cul-de-sac* 3 cm. (about 1 inch) long. Lower down the rectum and vagina form a common passage. Successive operations were performed resulting in a cure. To-day the woman can retain both urine and fæces. It seems as if a sort of urethral and anal sphincters had formed in the cicatrix.

P. Z. H.

SENILE ENDOMETRITIS. By G. E. HERMAN, M.B., F.R.C.P.
Treatment, March 11, 1897.

Dr. Herman recommends the following treatment for this class of case:—Scrub the vagina out with strong carbolic acid, and prescribe frequent astringent injections, such as chloride of zinc, five to ten grains to the pint. Begin with the weaker and increase the strength if necessary. Repeat the application of strong carbolic acid two or three times, if necessary, with weekly intervals. Take care that none goes on the vulva. If the discharge comes from the uterus there may be so little of it as not to trouble the patient when the vaginal discharge has been stopped. If treatment of the vagina does not abolish the discharge the cervix should be dilated with laminaria tents and the interior of the uterus explored. If growths are felt they should be scraped away and examined with the microscope. If there are no outgrowths the endometrium should be scraped with a blunt curette, any bits detached reserved for the microscope, and then the interior of the uterus swabbed with strong carbolic acid or Lin. Iodi. This will almost always remove the symptoms for a time. If after a short interval they return, and become as bad as before, the best treatment is to remove the uterus. Matthews Duncan advised the injection of mild astringents into the uterine cavity through a hollow sound.

F. P. S.

OBSTETRICAL.

THE TREATMENT OF PLACENTA PRÆVIA IN PINARD'S CLINIC.
By WELTI. *Corr. Bl. f. Schw. Aerzte*, 16, 1896.

According to Pinard's view the detachment of the placenta is caused by the traction of the ovisac. The pains press the presenting part upon the ovisac and, when the placenta is normally situated, the tension is equalised by the elasticity of the whole sac, but when the placenta is situated too low down, elasticity

cannot come into play, and the sac ruptures (prematurely), or the placenta is detached (hæmorrhage).

The proper method, accordingly, to relieve the tension of the ovisac, is to rupture the membranes, and Pinard's method is as follows:—

(1) *During Pregnancy*.—The position of the fœtus should, if necessary, be converted into a head presentation by external version. If there be repeated hæmorrhage with rise of the pulse rupture the membrane, and if the membranes are not to be felt presenting, the finger should be passed up anteriorly well above the symphysis and make the opening there. Champetier de Ribes' balloon is then to be introduced with forceps into the ovisac and inflated; when the balloon is expelled the labour is, if possible, to be left to nature, otherwise, terminated by forceps or version.

(2) *During Labour*.—The position may sometimes be improved; in case of serious hæmorrhage the membranes are to be ruptured, if the head engages the bleeding stops, if it does not the balloon is inserted, and the dilatation of the os expected.

(3) *In the Third Stage*.—If hæmorrhage is going on, or if the woman has lost much blood and the pulse becomes quick, the placenta should be detached and hot water injected, alcohol administered and injections of solution of salt (a tablespoonful to 1 litre of boiled water).

By this practice Pinard, up to December, 1894, lost only 4 of 149 women, 2·6 per cent.; while of 149 children 139 = 93·2 per cent. were born, and 115 = 77·7 per cent., left the clinic alive.

ONE STAGE IN THE DEVELOPMENT OF THE PLACENTA. By HAHN.
Ztschr. f. Geb. u. Gyn. xxxiv., p. 519, 1896.

In a case of abortion of the fourth month, on the admission of the case into Kustner's clinic, a fœtus 12 cm. long had already been expelled. The thin cord was in the woman's vagina, and through the os, which was wide enough to admit a finger easily, a soft body as large as a walnut projected, and turned out to be a projecting flap of the placenta bearing the nearly marginal insertion of the cord. It was remarked that the maternal side of the placenta was nearly as smooth as that to which the cord was attached, and this smoothness extended some distance higher up. After a minute description of the specimen, Hahn points out that in this case there was a reflex placenta of considerable size, for the smooth thick decidual investment which completely clothed the lower portion could, from its macroscopic appearance, its relation to the limiting ovisac, and the feeling to the touch above mentioned, only be regarded as decidua reflexa. The fact that the cord was inserted on the projecting reflex portion, and that the

villous tissue exhibited most development about the insertion of the cord, Hahn considers a new proof of Kellman's theory, according to which the position of the placenta merely depends on the primitive insertion of the allantois on the chorion, that is to say, what becomes later the insertion of the umbilical cord.

BENIGN SYNCYTIAL GROWTHS. By BULIUS (Freiburg). *Centralbl.*, No. 23, p. 693.

In three cases of eclampsia Bulius found in the placenta remarkable proliferation of the syncytium. He considers that while further experience alone can elucidate the existence of such growths, and their perhaps causal connection with eclampsia, they confirm the well known discovery of Schmorl, and supplement the theory of the so-called scrotinal tumours.

A CASE IN WHICH HYPEREMESIS GRAVIDARUM WAS ARRESTED BY GAUZE TAMPONS OF THE CERVIX. By KEHRER (Heidelberg). *Cbt. f. Gyn.*, xx., 15, 1896.

The patient had previously had perioophoritis, but exhibited no signs of hysteria nor any other reason for hyperemesis. There were no symptoms of the old perioophoritis present and after trying all sorts of treatment Kehrer decided on inducing abortion (in the fourth month) by gauze tampons. The vomiting became less frequent upon the application of the first tampon and upon the second ceased altogether, while slight pains came on. Twelve weeks later the sickness returned and was again arrested by tampons, and the same thing happened in the thirtieth week. As in the attempt to induce premature labour, the portio vaginalis showed extreme rigidity. Kehrer believes this rigidity to have been the cause of the vomiting, and recommends this treatment in suitable cases, particularly condemning the prolonged use of narcotics. In conclusion he discusses the means of lessening the irritability of the general nervous system.

ON THE FREQUENCY AND PROGNOSIS OF FORCEPS DELIVERY ON THE BASIS OF THE GYNÆCOLOGICAL AND OBSTETRIC MATERIAL OF THE TUBINGEN UNIVERSITY CLINIC FOR WOMEN. Part I. By WINTERNITZ. *Mon-Schrift. f. Geb. u. Gyn.*, iv., 1-2, pp. 1-132, 1896.

Winternitz treats of 331 gynæcological cases of the outpatient department whose first labour had been terminated by forceps. Of these 128 came under treatment after their first child—the remainder after later confinements. No less than 39 had lacerations of the perinæum extending into the rectum, and 10 urinary fistulæ. Of 128 women who had had a single labour only, 49

had displacements of the uterus and vagina, including 10 cases of prolapse ; of 60 who had borne two children (first by forceps) 39 had displacements, 20 being complete prolapse of uterus and vagina. Many, moreover, exhibited scars in the perinæum or vagina or on the descending ramus of the pubis, and (noted in 80 cases) cicatrices arising from tears or contusions of the vaginal portion.

DIAGNOSIS OF THE EARLIEST PERIOD IN PREGNANCY. By HEGAR. *Deutsche med. Wchschr.*, xxi. 35, 1895.

SIGNES ET SYMPTOMES DE LA GROSSESSE COMMENCANTE. By VINAG. *Lyon Med.*, lxxxii., 20, p. 69, Mai, 1896.

Hegar has previously drawn attention to the peculiar way the cervix yields to pressure in the earliest period of pregnancy. An equally valuable diagnostic sign recently discovered by him is that if the finger in the vaginal vault, and that of the other hand carried down from the abdominal wall, be pushed towards one another while pressing on the uterus, an artificial fold can easily be formed on the uterine wall in the same way that a fold can be made in the wall of the intestine when a coil of bowel is present in a hernia. The danger that forcible and repeated attempts to elicit this sign may cause abortion is a drawback to this way of investigation, and Hegar has only had the opportunity of observing this phenomenon where pregnancy was somewhat advanced, not yet, at all events, in the first two months.

Vinaz repeats and confirms Hegar's statement.

PREGNANCY COMPLETED IN THE ABDOMEN AFTER TRAUMATIC RUPTURE OF THE UTERUS IN THE FOURTH MONTH—PLACENTA REMAINING IN THE UTERUS TILL THE END—DEATH OF MATURE FÆTUS. THREE WEEKS THEREAFTER REMOVAL OF THE FÆTUS AND WOMB WITH THE PLACENTA. RECOVERY. By LEOPOLD. *Arch. f. Geb. u. Gyn.*, lii., p. 376.

XII.-para, 42. After eight normal pregnancies and labours, in her ninth the placenta was removed by art, and she was bedridden for nearly a year with paralysis of one leg ; in the tenth the placenta was again retained, and she was ten weeks laid up with debility and hæmorrhage ; after her eleventh in 1888 (forceps and retained placenta), fever and abdominal pain ten weeks, and though then she was only 37 her menses stopped. In the spring of 1891 increase in size, quickening in August, some two or three weeks before which she had a severe fall on her backside down some cellar steps. There was no hæmorrhage or abdominal inflammation, and she soon recovered ; but from the time of quickening severe abdominal pains kept her almost completely bedridden till the end of her term, ten weeks. For

the last three weeks the movements of the child and the consequent pain had ceased, and been replaced by feelings of cold, heat, headache and great general discomfort. No discharge of blood or decidua.

General health and family history good. Lungs, stomach and intestines in good order. Systolic murmur all over the heart, but no enlargement; some albumen. Girth 100 cm., xiphoid to navel 23, navel to symphysis 33 cm. Symmetrical and somewhat acuminous and pendulous enlargement of the abdomen. The child's head could be felt directly over the symphysis and the sutures and fontanelles distinguished; small parts to the left of the navel and the breech farther back; to the right a large elastic swelling (uterus) extended as high as the navel and a hand's breadth to the right of the centre line (second form of second cross position). Breasts fully enlarged secreting milk, nipple pigmented with prominent glands. Vulva and vagina swollen and relaxed. Vaginal portion high on the right, lacerated on the left side. From it one could follow a soft mass upwards corresponding to the gravid uterus. The left vaginal vault was filled up with a round body the size of an apple—part of the fœtus.

Diagnosis.—Left-sided extra-uterine pregnancy, with mature fœtus, dead about 3 weeks.

Laparotomy.—Abdomen opened directly below the navel, so as to reach the fœtal sac from above; transverse colon exposed adherent to the anterior abdominal wall; incision continued to symphysis, carefully protecting fruit sac. Delicate transparent sac, broken during its tedious separation from the left side of the cavity. The child, which was in the position described, and completely invested with vermix caseosa, was extracted by the head; the pelvis and feet lay near the pancreas, and were followed by a coil of small intestine with which they must have been in direct contact. The child lay in a completely closed sac, only deficient in the left upper part, in front bounded by the transverse colon, to the right by the left edge of the uterus, forward and to the left by the abdominal wall, and below by the pelvic inlet. The cord was tied, the large fœtal cavity cleaned out, a number of shreds of the sac detached from the intestine, omentum and abdominal wall. The cord was followed up to the middle of the right edge of the uterus and found to pass into it through a perpendicular slit in the muscular tissue behind the broad ligament; the placenta was therefore in the uterus. One might perhaps have cut off the cord in front of this slit, have stitched up this latter, expressed the placenta *per vias naturales*, and left the uterus and closed the abdomen. But the thin edges of slit might not have held or the placenta been easily and completely expressed, and from the condition of the patient it was desirable to end operation quickly.

The broad ligaments were divided between double ligatures; both ovaries and the left tube were normal, the right closed at its outer end. The upper end of the abdominal wound was closed as far down as the uterus. A long strip of iodoform gauze was placed in the bottom of the pelvic cavity after the latter had been thoroughly cleaned, the wound closed from below and a strip of gauze laid in the cleft leading to the foetal cavity, the abdominal serosa joined to the uterine, and only then an elastic band passed round the collum uteri. This band lay almost above the abdominal wall and the stump was as small as possible. The rest of the operation was done in the usual way. After securing the stump above the elastic ligature by a larding pin and some deep stitches, the uterus was amputated, the stump shortened as much as might be and cauterised, and a bandage applied. The incision passed through the lower off-shoots of the placenta on the anterior wall; the posterior wall was as thick as in an ordinary puerperal uterus.

The operation hardly lasted an hour and the woman lost very little blood. In the evening she seemed greatly exhausted, but had neither pain, vomiting nor distension. Pulse hardly perceptible.

She improved gradually, and in spite of an abscess in abdominal wall to the right of stump, was discharged on November 5, in excellent condition.

The interesting points in the case were, that the foetus was borne to term in a new fruit sac outside the uterus, that the opening was in the right posterior wall of the womb through which the cord passed, that the position of the placenta was entirely within the womb and on the anterior wall, and that there was so thin a cicatrix (about 6 cm. $\times$ 6 cm. $\times$ 2 mm.) in the posterior uterine wall—that it was in fact a uterine pregnancy converted into a secondary abdominal one.

It is a wonder that such a deficiency in the uterine substance through which the cord passed, and the cavity of the fruit sac was in direct communication with that of the uterus, neither led to acute peritonitis of the mother nor prevented the maturity of the foetus.

The posterior wall of the uterus with the cicatrix and slit was in contact with and closed by the adjoining intestines, the collum was closed by the foetal membranes and by a very firm plug of mucus.

As the whole of the cavity of the uterus except the cicatrix was lined by membrane, the foetus must have developed therein up to the seventeenth week, two to three weeks before quickening. When the woman fell the uterus had already risen out of the true pelvis, and the uterus was thrust against the sharp edge of the promontory—and its muscular tissue ruptured; but the foetal

membranes did not at first give way, and not only did not further tear the muscosa, but, projecting through it, arrested any hæmorrhage. The child's feet and a great portion of the cord followed afterwards.

If the membranes had broken at the same time as the uterus the waters would have escaped, and the change in the intra-uterine pressure would have brought on contractions, and the placenta would have been detached.

Plates XII. and XIII. show opened and unopened uterus from behind, $\frac{1}{3}$ with 40 cm. cord 1014 grms. $18 \times 13 \times 6\frac{3}{4} = 34$ cm., whole cord 49 cm. = normal length for mature fœtus. Male child 50 cm. 2720 grms. The posterior wall of the uterus very much thinned, the edge of the 2 cm. slit only 2 mm. in thickness.

ON MALIGNANT TUMOURS OF THE CHORIONIC VILLI. By HERMANN W. FREUND. *Ztschr. f. Geb. u. Gyn.*, p. 161, 1896.

A woman of 43, after her third confinement in July, 1894, which was spontaneous and rapid (*rasch vor sich gegangen* was) nursed her child for three months, daily losing blood. On October 1, 1894, owing to increased hæmorrhage, a tampon was applied, and finally a friable placental polypus the size of a plum, which had intruded to a remarkable extent into the uterine tissue, was removed. Anatomically the polypus seemed in no way malignant (v. Recklinghausen) and the diagnosis of an ordinary placental polypus was accepted. The hæmorrhage ceased, but seven weeks later the woman noticed a small growth in the entrance of the vagina, and the bleeding recurred. This tumour, as large as a walnut, was situated in the middle of the posterior wall of the vagina, bled slightly and showed superficial ulceration; it was cut out and v. Recklinghausen found in it unmistakable signs of sarcoma deciduo-cellulare. On January 9, 1895, the patient was again seen for renewed hæmorrhage. The uterus was then as large as at the fourth month, and bled profusely when curetted. In the posterior vaginal wall, some distance from the scar of the old operation, were two new tumours, the largest as big as a hazel nut; these were extirpated with the uterus *per vaginam*, and the woman made an uninterrupted recovery, and remained well and free from recurrence in April, 1896.

The uterus after hardening was as large as the fist. The fundus and corpus were almost completely taken up by a tumour as large as an egg growing from the anterior wall and reaching almost to the inner os. Microscopic examination showed that the growth consisted entirely of well-developed polynuclear syncytium.

Freund considered that a malignant uterine tumour had developed from the remnant of a placental polypus and given rise to the metastases in the vagina, this tumour being derived exclusively from the syncytial investment of the chorionic villi, and his view is that the syncytium is derived from altered endothelium.

v. FRANQUÉ. *Ztschr. f. Geb. u. Gyn.*, p. 199, 1896.

A woman of 32, after her sixth confinement in April, 1895, suffered from serious uterine hæmorrhage for four weeks. On July 29 the uterus was cleared out by hand and masses of placenta extracted, in appearance comparatively fresh. Microscopical examination made it probable that the case was one of Marchand's tumours. On August 13 the uterus, which was about as large as a fist, was removed by total extirpation. The patient was discharged cured twenty-eight days later, and was free from any trouble on March 4.

The tumour agreed in all essential points with Marchand's description, and v. Franqué thinks its origin from the chorionic villi proved by the following points:—(1) the clinical history showed that no malignant growth existed before the pregnancy; (2) the uterine mucosa was for the most part quite intact. The tumour had developed at the most usual seat of the placenta, and its placental origin was therefore probable. In both constituents of the growth the characteristic form and staining of the protoplasm; in Langhan's cells the opulent karyokinesis and quantity of glycogen; in the syncytium the absence of figures due to the segmentation of the nuclei, the fragmentation of the nucleus, the vacuolation, the fatty contents and the bristle edging, the presence of which v. Franqué had repeatedly convinced himself of in specimens of abortion; (3) the typical arrangement of the two sorts of tissue to one another was most important; (4) the constant relation also of the elements of the growth to the blood vessels. The extension of the tumour almost exclusively along the path of the circulation is in favour of the genesis mentioned, for this condition well accords with the normal relations of the chorionic villi and their derivatives to the maternal vascular system.

v. Franqué does not agree with Marchand in thinking that the correspondence of Langhan's layer in men to the foetal ectoderm is proved, nor that the syncytium is a descendant of the uterine epithelium. He adheres to the old view that the cellular layer is of mesodermal origin and akin to connective tissue, and that the syncytium is of foetal descent and an ectodermal epithelium.

In connection with the suggested origin of malignant new growths from hydatid moles, an exact description is given of a

specimen of the latter examined by the author in a recent condition.

ON THE VALUE OF ARTIFICIAL LEUKOCYTOSIS IN THE TREATMENT OF SEPTIC PUERPERAL PROCESSES. By HOFBAUER. *Cbt. f. Gyn.*, p. 441, 1876.

Since v. Jaksch obtained satisfactory results by the use of pilocarpin in severe pneumonia, several attempts have been made to realise the therapeutic effects of an artificially increased leukocytosis. With this object Hofbauer has lately treated 7 cases of puerperal infection in Schauta's Clinic, with Professor Horbaczewsky's nuclein, choosing this substance, not only on account of its prompt action in stimulating leukocytosis and its freedom from any unpleasant effect (5 to 10 grammes harmless), but because the nucleic acid given off under the influence of the pancreatic secretion has probably a direct bacteriological action.¹

In the course of the first twelve to twenty-four hours after the administration there was a very decided rise in temperature, generally followed by a critical fall, and, in nearly every case, a tenderness varying greatly in extent and intensity, and sometimes resembling that met with in leukemia, appeared in certain bones, generally the hollow bones of the leg. Examination of the blood showed decided leukocytosis and the presence of numerous nucleated red corpuscles, while there was no deficiency of hæmoglobin. One patient died without any reaction, in the others the effect on the general condition was very beneficial. Patients who had lain half asleep and apathetic gave clear and satisfactory replies about their condition, and even while the temperature remained considerably above normal lost all anxiety of expression and icteric tinge of the skin. Locally the ulcers promptly showed healthy granulation, and endometritic discharge, losing its putridity, became purulent and copious at first, soon moderate in amount. No definite conclusions can be drawn from such a limited number of cases, and further investigation alone can show how much we may expect from artificial leukocytosis in similar cases.

J. J. M.

PUERPERAL SEPSIS TREATED BY ANTISTREPTOCOCCUS SERUM.

EDMUNDS, *Amer. Jour. of Med. Sciences*, April, 1897, p. 929.

HIRST, *Amer. Jour. of Obstetrics*, May, 1897, p. 625. NORRIS,

Ibid, p. 629. SHOEMAKER, *Ibid*, p. 637. DAVIS, *Ibid*, p. 642.

BALDY, *Ibid*, p. 645. SCHÖBER, *Ibid*, p. 647.

Charpentier records a mortality of 35.6 per cent. in 40 cases of puerperal septicæmia treated by antistreptococcus serum in

¹ Kossel, *Deutsche. Med. Wchns.*, 1894, p. 146.

Paris. Shober, collecting 21 cases published in England during 1896, finds that only 19 per cent. were fatal. Hirst, Norris, Shoemaker, Davis and Baldy, and Edmunds, lost 5 cases out of 10, and of the other 5 there are only two recorded by Norris and Edmunds which directly prove that the serum had any beneficial action. Norris lays the greatest stress upon bacteriological diagnosis, since it is only in infection by streptococci alone that the antistreptococcus serum is effective; he gives 10 cm. of Marmorek's serum on three successive days. Success is conditional on commencing as early as possible. In a discussion in the gynæcological section of the College of Physicians of Philadelphia (March 18, 1897), the determination of the form of infection in any particular case, the uncertain dose and the diversity and uncontrollability of the preparation were insisted upon as the main difficulties in the way of the use of serum. Dorland recommended Hirst's practice of administering nuclein at the same time in order to preserve the blood from decomposition by the toxin and antitoxin in the circulation.

THE CULTURE, DIAGNOSIS, AND SERUM TREATMENT OF PUERPERAL FEVER. By DR. HAULTAIN. *Edin. Med. Journal*, July, 1897.

In a paper on this subject Dr. Haultain upheld the use of the "culture" method, not only in diagnosis, but for purposes of prognosis and treatment. If the infection was a mixed one the prognosis was bad, and especially if the *B. coli communis* was present. If streptococci alone existed the chances of recovery were good, but if both these and streptococci were present, the prognosis was not nearly so hopeful. F. F. S.

ECLAMPSIA AFFECTING MOTHER AND CHILD. By SCHMID. *Klagenfurt Centralbl. f. Gynæk.*, No. 25, p. 821.

A woman, II.-para, who was brought into hospital in an eclamptic condition, was delivered with forceps in deep anæsthesia from morphia and chloroform. The asphytic child recovered, but two hours later was affected by clonic spasms and died in a fit on the next day. The mother recovered. The autopsy on the child disclosed *inter alia* acute nephritis and hæmorrhagic hepatitis, from which Schmid concludes that the spasms were essentially eclamptic. In conclusion, he recommends, as still insufficiently appreciated, enemata of the normal salt solution in doses of from $\frac{1}{4}$ to $\frac{1}{2}$ a litre several times a day, as a simple, painless, and rapidly effective remedy after great loss of blood, restoring the action of the heart, improving the general condition, and relieving the symptoms of acute anæmia, headache, faintness, loss of sight, and above all, tormenting thirst.

ENDOMETRITIS DURING PREGNANCY, AND ITS ETIOLOGY. By EMMANUEL (Berlin). *Zeitschrift für Geb. u. Gyn.*, xxxvi., p. 283.

The author supports Veit's opinion that endometritis of pregnancy depends on a chronic endometritis existing before conception, on the ground of the following recent observation of his own. A woman aborted in the fourth month and two months later was curetted for hæmorrhage. Histological examination of the decidua vera and scrotina disclosed numerous inflammatory foci infiltrated with crowds of small diplococci. On the other hand, the curetted matter, though exhibiting all the signs of chronic endometritis, contained no cocci. The cocci, in Emmanuel's opinion, caused the inflammation of the decidua which led to the abortion, but he has no reason to give why only eight weeks later none could be found in the endometrium. This negative result coincides with the observations of others (Bumm, Pfannenstiël, Doederlein, Menge, Mertens, Gottschalk, Immerwahr), who have never found bacteria in chronic endometritis corporis uteri.

CHILDBIRTH FROM A UTERUS BICORNIS DUPLEX SUBSEPTUS BICOLLIS CUM VAGINA DUPLICE. By JAKESCH (Franzenbad). *Centralbl. für Gynäk.*, No. 24, 729.

A case remarkable from the difficult course of the labour, which, except in one instance, reported by von Dittel, in which the breech presented and the septum was ruptured and required ligature, has, in all other analagous cases as yet published, been spontaneous at term, or when premature, has not required operative intervention. The woman was a primipara, of 30 years, at full term. After three days' severe labour pains Jakesch, when consulted, found a double introitus vaginæ, two vaginal portions, of which, however, only the left was dilated, and a double uterus, the head of the child being in the left and the trunk and placenta in the right side. The child was dead, so he perforated the presenting head, which could not be extracted with the cranioclast until he had succeeded in smashing one humerus. The placenta was removed by hand on account of hæmorrhage. An illustration is given of the position of the fœtus in the third stage. Normal puerpery.

CONCEPTION AFTER CURETTAGE OF CERVICAL CARCINOMA. By LEINZIYER (Graz). *Centralbl. f. Gynäk.*, No. 18, p. 502.

A woman of 41 curetted for inoperable carcinoma, cauterized and discharged in a fortnight much improved, was re-admitted one year later with an enlarged uterus and a return of the cancer. After repeated curettage, and the use of the sound in the uterus for diagnosis, she aborted a macerated fœtus, and

died eleven days later from sepsis. Seven other cases are recorded of the occurrence of conception after operative intervention on account of uterine carcinoma.

The pregnancy was taken for hydrometra. Van de Veer (v. *Cbt.*, 1890) collected sixty-eight published cases of unrecognized or improperly diagnosed pregnancy, and concluding that the mistake was sometimes unavoidable urged that all such cases should be published.

EXTRA-UTERINE FÆTATION—SUB-HEPATIC. VEIT, *Handbuch der Gynækologie*. BUMM, "Gonorrhœa in Women."

Tuffier communicated to the Academy of Medicine on June 8, the case of a woman who during the course of a normal pregnancy complained many times of hepatic pains. One month after natural labour at term she had an attack of hepatitis with jaundice, followed after a second month by symptoms which were attributed to cholecystitis. When the abdomen was opened a macerated fœtus of about five months' development was removed from a cyst adherent to the gall bladder, and the sac cleaned and plugged. The woman made a rapid recovery.

A RARE CASE OF OLD TUBAL PREGNANCY. By KRETSCHMUR (Kiel). (*Monatsschrift f. Geb. u. Gyn.*, v., 6.

During a laparotomy for a large ovarian cyst, a small spindle-shaped enlargement was found on one closed tube containing thirty-five small bones resembling those of a fœtus of three months. From the history of the case it was ascertained that this tubal pregnancy happened thirteen years previously. The epithelium of the ovisac proved to be unciliated and columnar; the muscular tissue of the tube wall was to some extent changed into connective tissue. The case is a good proof of the recuperative capacity of the tube after tubal pregnancy, so greatly insisted upon by Winckel.

J. J. M.

ECTOPIC GESTATION TWICE IN THE SAME PATIENT WITHIN SEVEN MONTHS. *Australasian Medical Gazette*, vol. xvi., No. 6.

Dr. Ralph Worrall, of Sydney, reports the following interesting case:—

C. C. (multipara) was admitted into the Sydney Hospital on January 5, 1896.

The previous history was that she had missed the menstrual period, due about Christmas, and that the previous period had been unusually scanty. She thought herself pregnant. For three weeks past she had noticed a lump falling about in the lower abdomen, especially on stooping. On January 1 she slipped slightly, and immediately severe pain set in in the right

inguinal region. She felt very ill and faint, and was put to bed by friends. On the 3rd, feeling better, she got up and began to do a little work about the house, when sudden, agonising pain began, so great that she could scarcely stagger back to bed. She fainted several times, and it was noticed how cold she had become. There was slight hæmorrhage from the uterus. She vomited two or three times, and had not been able to get the bowels to move or pass flatus since the first attack of pain. The following was her condition on admission:—

Blanched, anxious-looking; tongue dry and furred; abdomen greatly distended; tender all over, and very tender in right inguinal region, where a small nodule is felt, slightly movable. Uterus is in normal position, slightly enlarged, fixed, not apparently connected with above nodule; os uteri patulous, but no sanious discharge now; slight irregular matting all over vaginal vault, which is considerably tender, but not depressed.

Abdominal section was performed three days after second attack of pain and collapse. Median incision. Parietes very vascular. Peritoneum dark; on opening it many pints of dark fluid blood gushed out. The right broad ligament was moderately distended. On its posterior surface was a ragged opening, the size of a large half-crown, which was blocked with a firm clot. The intestines were greatly distended, intensely congested, and roughened with lymph. The fallopian tube was not markedly distended. The ovarian artery in the outer border of broad ligament was quickly tied, and another ligature placed close to uterine cornu. The rugged portion of broad ligament was then cut away, and the ligament sutured from pelvis brim to uterus. Even then the hæmorrhage was imperfectly controlled; so, after flushing with saline solution, a gauze roll was placed on line of suture in ligament, and a glass drainage-tube in Douglas' pouch. The latter was removed in 24 hours, and the former on the third day. The patient made a very easy recovery.

The probable sequence of events and cause of the hæmorrhage was a primary rupture of the tube downwards between layers of broad ligament, the hæmorrhage thus being extra-peritoneal and limited by the tension of these serous folds. Then, in consequence of the patient resuming her household duties, a fresh hæmorrhage occurred, under the pressure of which there was a secondary rupture of the broad ligament into the general cavity of the peritoneum, the bleeding then being intra-peritoneal and unlimited.

On the 20th of August of that same year I was again sent for by this patient, and was given the following history: She had remained quite well since leaving the hospital until August 1, when she missed the period due on that date, and the following day was attacked by violent pain in the lower abdomen, with

slight collapse. She remained in bed for a day or two, but saw no physician. A week later a red vaginal discharge appeared, and continued up to the time of my visit. She noticed no pieces of membrane.

On the 17th there was a second attack of severe pain after exertion, and again slight collapse, from which she recovered next day, and went about as usual, although feeling far from well.

On the 20th, just before my visit, after a hearty tea, she was seized with a third and most severe attack of pain, which she described as "agonising." On my arrival I found her vomiting; blanched; p. 60, very soft and compressible; sub-normal; respirations, sighing; voice weak.

The pain was most marked in the epigastric region, although it had begun in the pelvis, where the tenderness was greatest. There was considerable abdominal distension. P. V.: Owing to the condition of the patient I could examine only imperfectly, but made out a tender fulness in the left ant. and left fornix.

She was admitted into the Sydney Hospital, and abdominal section performed next morning. Intestine was firmly adherent to the parietes beneath the old cicatrix. On opening the peritoneum a large quantity of dark fluid and clotted blood escaped. The source of the hæmorrhage was found to be the left tube, which, although unruptured, was considerably dilated, and held entangled in the fimbriæ of its abdominal ostium a tubal mole.

The abdominal cavity was thoroughly flushed in all parts with saline solution, and a drainage-tube inserted.

The patient made an uneventful recovery.

F. F. S.

ACETONE IN THE URINE OF WOMEN DURING GESTATION AND LABOUR AS A SIGN OF THE INTRA-UTERINE DEATH OF THE OVUM. By KNAPP (Prague). *Centralbl. f. Gynäk*, No. 16, p. 417.

Acetone in normal urine only exists in traces, but when in any part of the system a large amount of albumen is being rapidly decomposed, aldehydes of the secondary alcohols, especially dimethylactone, appear in the blood, urine and expired air, and the amount of acetone is increased, constituting the pathological acetonuric of von Jakesch. Vicarelli stated that positive evidence of acetone in the urine of pregnant women is a sure sign of the intra-uterine death of the ovum. This statement, hitherto not much noticed, is now confirmed by Knapp as regards all cases he has examined, inasmuch as in all those women whose children were alive the tests gave negative results. Legal's test was the one employed and is particularly described.

ON THE ETIOLOGY AND FORENSIC IMPORTANCE OF RUPTURE OF THE VAGINA *Sub Coitu*. By WARMAN (Kielce). *Centralbl. für Gynäk.*, No. 24, p. 736.

Warman was led to examine the published cases (twenty-five) of this injury with regard to its etiology in connection with a case of alleged rape. A cook, aged 58, and the mother of eight children, had a rupture in the posterior vaginal vault which she attributed to an attempt to violate her. He concludes that the cause of such rupture is to be found rather in an exalted condition of sexual excitement on the part of the woman than in the violence of coitus in that of the man, and that injuries when merely deep-seated vaginal ones exclude rape. J. J. M.

THE USE OF THE KOLPORYNTER IN THE UTERUS FOR THE PURPOSE OF DELIVERING PREMATURE BIRTHS. By HERICH (of Riga). *Centralblatt für Gynäkologie*, February, 1897.

Herich describes five cases where he used this method with success. All five patients, amongst whom was one with twins, were multiparæ in the ninth month of pregnancy; in two there were distinct reasons for delivery owing to the presence of eclamptic attacks, in two there were chronic diseases (myelitis transversa and curvature of the spine) threatening the lives of the mother and child, and in one there was pelvic contraction.

The kolporynter was introduced with every antiseptic precaution under anæsthesia in four and without in one. As all the patients were multiparæ the preliminary dilatation of the cervical canal was not required in any case.

In two patients there was marked dilatation of the cervical canal in a very few minutes (four to seven) and the author was able to remove the kolporynter and deliver the fœtus after preliminary turning.

In the other three cases the time was much longer, being three-quarters, one, and three hours respectively; and in these cases it was also necessary to make use of Dührssen's cervical incisions. The delivery of the fœtus was somewhat difficult in two cases, and in one it was necessary to apply the forceps to the after-coming head. In three it was easy.

Four children were born viable, two were asphyxiated, and two dead. The membranes had to be removed by hand in one case. There was uterine atony in each case after delivery, in two severely, and in three lightly.

The after-period was normal in four cases, and in the fifth the temperature once reached 39.4° C.

Herich advises from this experience that the kolporynter should be used in such cases in which there are indications for speedy delivery of pregnant women, and in whom other methods of delivery are contra-indicated owing to their longer duration.

SHOULD SYPHILITICS MARRY? By H. G. KLOTZ. *The New Yorker Medicinische Monatsschrift*. November 20, 1896.

The first point to settle is as to whether the syphilis is in an infectious stage. The author considers that the third stage of syphilis is not infectious, and it only shows itself in 10 to 20 per cent. of those suffering from syphilis.

The patients in the first and second stages may easily excite syphilis either in the region of the vulva or internally, and in addition the wife may have very severe syphilis from the reception of syphilis through her fœtus from the father. The influence of paternal syphilis on the child may vary. Firstly there may be abortions and miscarriages of dead fœtuses; after this the child may reach term but showing the distinct signs of syphilis, and destined to early death; then further, children may have no signs of syphilis, but are of weak vitality and prone to every ailment and predisposed to rickets, chronic hydrocephalus, inflammation of the meninges of the brain and other disorders. Finally a large number of children are born quite strong and lively, and they in their turn have healthy children. The worst results for the child occur when there is maternal syphilis, and it is only rarely under these conditions that a healthy child is born and remains strong.

As regards the influence of other diseases on the course of syphilis and its connection with sclerosis of the cord and spreading paralysis, much has been recently said and done by the neuropathologists. From this the author concludes that there is no fundamental reason for forbidding marriage to a syphilitic patient, if treatment has been well carried out, and if after the treatment a sufficient length of time has been allowed to pass.

Dr. Lustgarten in the same paper refers to the same subject, and his opinion is that the following points must be considered:—(1) the existence of the disease; (2) the method of treatment; (3) the time of disappearance of the last syphilitic signs.

Syphilis becomes non-infectious after the lapse of a certain time (two to five years); with time, too, the danger of any sequellæ is lessened, especially in those cases which have been treated by mercury and iodine.

Lustgarten, referring to the varied replies of various authors to the question as to how long must pass before a syphilitic may be allowed to marry, proceeds to give his own view. In fresh cases of syphilis the patient must have a two years' course of treatment. If in the course of the next three years there are no signs of syphilis he may marry, but should go through a preparatory course of treatment for one month before the wedding. If any signs of syphilis appear the treatment should again go on for one year. In this manner the great majority,

after the lapse of three to five years from the date of infection, may be allowed to marry.

THE LOSS OF BODY WEIGHT IN HEALTHY WOMEN IMMEDIATELY AFTER DELIVERY. By KARL HEIL (Heidelberg). *Archiv. für Gynäkologie*, vol. li.

The average loss of weight in 100 lying-in women was 2·298, kilos, out of an original average weight after delivery of 55·467 kilos; in other words, out of every kilo of body weight there was a loss of 0·041 kilogramme, so that the loss of weight was equal to $\frac{1}{24}$ of the original average weight after delivery.

The daily loss was greatest on the first day, and then gradually lessened until the fourth day, on the fifth and sixth days it was again augmented, on the seventh day it was nearly as high as the loss on the second and third days.

Beginning with the eighth to the tenth day, an increase in weight was noticed which was greater on the eighth day, and after the eleventh day again changed to a loss of weight. In 22 per cent. of the women, the loss of weight ceased at the ninth day, and increase began to take place; in eleven cases on discharge (eighth—fourteenth day), the original weight had been regained; and in four women the body weight never fell at all from its original after-delivery height. In addition to the primary fall in weight, the author found in the majority of cases a second fall at the end of the second week after delivery. In eight women who did not suckle, the loss of weight was markedly less than the average. In 1, 3, 4 and 5 paræ, the loss of weight was below the average, in 2 paræ it was 506 grammes above the average (in this neither the body weight of the delivered woman nor her age were taken into account).

The relation between the original weight and the amount of loss, was expressed as follows: the greater the weight the greater the loss; with an original weight of 41, 56·5 kilogrammes, the loss was less than the average; at 56·5 kilos and more, the loss was often much above the average. In the young mothers (ten were below 20 years of age), the loss of weight was markedly less (all of them were primiparæ with slight body weight).

The great difference between the results of the author and those first obtained (Gassner, Baumm), is contained in the fact that the average loss of weight found by Herl was much less, and that the recovery of weight in the majority of cases began even at the first week. The reason of this appears to be the better nourishment of the lying-in women in the Heidelberg Maternity. In every case of somewhat severe loss of weight after delivery, a correspondingly suitable increase of food should

be given. The fall of weight in the first day after delivery and again on the first day after getting up, are evidently indications, as is the increasing weight about the end of the first week.

The best food for lying-in women was found to be milk. It is important for nutrition that the lying-in women should rest in bed for a sufficient time.

In the mother of twins, the weight fell from 68·545 kilos to 60·625 kilos on the eighth day, a loss greater by three times than the average, on the eighth day there was a slight recovery of weight, and on the twelfth a second slight fall. The mother suckled both children. F. E.

ON SUDDEN DEATH IN PREGNANCY AND CHILD-BED. By ZWEIFEL. *Centralb. f. Gynæk.* i., 1897.

Zweifel records the following unique case:—Perforation was performed in the case of a multipara, aged 29, on account of rigors and pyrexia. She had jaundice on the third day, secondary hæmorrhage on the ninth and tenth without assignable cause, and death took place on the eleventh suddenly, without any precursory symptoms. The suspicion of pulmonary embolism was contradicted by the autopsy, which, however, disclosed signs of sub-acute nephritis. Zweifel explains the cause of death as uræmia acutissima—no similar case has yet been published. The other cases of sudden death he has himself met with were due to pulmonary embolism, heart disease, tumours of the brain or medulla oblongata, or stenosis of both coronary arteries from arterio-sclerosis.

ON LARGE-CELLED (DECIDUAL-FORMED) PROLIFERATION ON THE PERITONEUM AND OVARIES IN INTRA-UTERINE PREGNANCY. By SCHMORL (Dresden). *Monatsschr. f. Geb. u. Gyn.*, vol. i.

Schmorl has found these proliferations, hitherto described as occurring only in extra-uterine pregnancy, in thirty cases of intra-uterine. Generally situated in the excavatio recto-uterina or in the ovaries, they form small excrescences which sometimes are hardly to be distinguished from tubercle. They lie below the peritoneal endothelium (or germinal epithelium of the ovary) and are evidently derived from connective tissue cells. They are found as early as the fifth month, only form during pregnancy, and share in puerperal involution.

J. J. M.

THE MANAGEMENT OF TUMOURS OF THE UTERUS AND APPENDAGES COMPLICATING PREGNANCY. By B. AUSTIN CHENEY, M.D., of Yale. *American Journal of Obstetrics*, Feb., 1897.

Dr. Austin Cheney points out the comparative frequency of abortion resulting from pressure exerted upon the uterus by

the tumour, and from mechanical interference with its further development, from deficient quantity of blood supply, and also probably from the irritation of the sympathetic system. Further dangers are, in ovarian tumours, twisting of the pedicle with gangrene and suppuration of the tumour, rupture of the cyst, and possible intestinal obstruction from its pressure. From an analysis of cases of labour complicated by ovarian cyst, he finds that where the labour has been terminated by forceps without puncture of the cyst, the maternal death rate has been 50 per cent. Where version has been done, also without puncture, the ratio has been very nearly as high. Better than these, where Cæsarean section and removal of the growth have been done, the ratio has been 25 per cent. Where the existence of the cyst is known before the onset of labour, and the surgeon can elect his course, immediate ovariectomy gives far better results. In 204 ovariectomies at different periods of gestation collected by Gordon, there are 21 cases in which the mother recovered, but result as to the pregnancy is not given; 7 cases in which the uterus was injured causing two deaths; of the remaining 176 cases, 93.2 per cent. recovered, 6.8 per cent. died; in 69.4 per cent. the gestation proceeded to term, in 22 per cent. premature labour followed the operation. The injurious influence of pedunculated subserous fibroids upon pregnancy and labour is even more marked than that of ovarian cysts. Dr. Cheney reports two successful cases of his own, one of ovariectomy, the other of myomectomy during pregnancy; in both cases the patient recovered and was delivered at full term.

J. F. J.

THE SYMPHYSIS PUBIS IN PARTURITION. By E. A. AYERS, M.D. *American Journal of Obstetrics*, July, 1897.

This is a second paper in which Dr. Ayers supplements his first report on five cases by a further account of three others, making eight in all in which he has performed symphysiotomy after his own method, described by him as "subcutaneous." He maintains that the question of selection between the operation of symphysiotomy and that of induced labour presents itself in a comparatively small number of cases, as the great majority are emergency. He holds that the mortality risk for the mother is about 1 per cent. greater in selected symphysiotomy than in induced labour; for the child it is twice as great in induced labour. The added danger to the child in induced labour must be balanced against the risk of disablement and the discomfort to the mother in symphysiotomy. The attempt to deliver with the forceps in these emergency cases should not be rapid and brief so much as slow and gentle.

Of the five cases reported in the previous paper four recovered completely without disability or laceration of bladder

or vagina, or inflammatory reaction in the wound and with firm fibrous union; the "play of the joints" varying from one-eighth to one-quarter of an inch. In the fifth case Dr. Ayers before operating severed a very extensive ring of the cicatricial tissue which encircled the vagina, this subsequently sloughed and though the joint wound healed by the eighth day, this sloughing opened the rectum and bladder; infection followed and the patient died on the thirty-third day after the operation, of secondary pneumonia.

The three cases now added did well; the true conjugates were three and half inches, four inches, and three inches respectively. The amount of separation resulting from the symphysiotomy, and by the aid of which delivery became possible, was respectively, two and a half inches, two and a half inches, and two inches.

Dr. Ayers considers it necessary in order to obtain union at the joint after operation that the mother should be slung in an arrangement, such as he has devised—a sort of double hammock. A very interesting series of nine collected cases of traumatic and spontaneous rupture of the symphysis pubis are briefly recorded.

The special directions which Dr. Ayers gives for performing this operation of subcutaneous symphysiotomy are:

- (1) Secure full dilatation of the cervix, if possible without risk to the child.

- (2) Have the urethra and bladder held on one side with a sound.

3. Make the initial incision a little above the subpubic arch and under the *elevated* clitoris.

4. Introduce the left index finger within the vagina, against the posterior groove or ridge of the joint, up to the top.

5. Pass a narrow tenotomy knife, with the point close to the joint, up to within a half-inch of the top, and *under* the overlying soft tissues.

6. Substitute a probe-pointed bistoury and meet the left index-finger with the probe over the top of the joint, and work the blade through the joint downward until separation is felt by the posterior finger.

7. Have an assistant press the mouth of the wound and the tissues lying over the joint with a small piece of gauze.

8. Deliver with forceps, if possible, and refrain from suprapubic pressure, aiming to deliver the head through the cervix without drawing the latter down below the symphysis.

9. Hold the bladder well to one side while pressing the pubic bones together.

10. Pass a small strip of gauze into the prepubic wound, and another against the cervix, after irrigating, leaving both pieces exposed for easy removal, having refrained from stitching cervix or perineum.

11. Introduce a soft-rubber retention catheter into the bladder and leave it until sure the patient can voluntarily micturate.

12. Dress the vulva with gauze and strap the joint with adhesive strips.

13. Remove all the gauze in thirty-six hours and irrigate vulva and vagina twice a day, keeping the vulva carefully dressed between times.

SYMPHYSIOTOMY. *Ann. de Gynéc., Jan., 1897.*

At the Bandelocque Clinic there were fourteen symphysiotomies out of twenty-seven artificial deliveries in the course of one year.

After the operation delivery was accomplished thirteen times by forceps, and once by turning. There were two maternal deaths, one from pneumonia and the other from septic infection. Ten children were born alive.

In every case complete union of the symphysis resulted with no complications.

Pinarud states that during the past year five women upon whom symphysiotomy had previously been performed were delivered naturally.

He also operated on one patient a second time without any difficulty.

F. F. S.

OVARIAN PREGNANCY COMPLICATING NORMAL UTERINE GESTATION; SUCCESSFUL LAPAROTOMY ON THE FIFTH DAY AFTER THE BIRTH OF THE UTERINE FRUIT. By LUDWIG (Vienna). *Wien kl. Wchns.*

Ovarian pregnancy is very unusual, and Ludwig can only find eighteen cases recorded. On February 29, 1896, a woman of 35, a VI.-para, was admitted into Chrobak's clinic, who had been spontaneously delivered of a living full term female child in her own home on the 20th of the same month. The midwife noticed that a second child was left behind. As the doctor called in could only bring away the retained placenta, and not the *fœtus per vias naturales*, the woman on the fifth day decided on a seventeen hours' journey to Vienna, where it was ascertained that there was a pregnancy in the left adnexa, and that the mature *fœtus* was yet alive, and a strong living boy (3,570 grms.) was removed by laparotomy the same day, and the uterus and adnexa extirpated. Normal course, but re-convalescence was impeded by right pneumonia.

From examination of the removed organs it was ascertained that the pregnancy was ovarian. Ludwig points out that in thirty cases in which there were co-existent extra- and intra-

uterine pregnancies, it was only in two instances that both fœtus lived to the end of term; of the extra-uterine not a single one lived, and only seven of the intra-uterine ones. This case, with the recovery of the mother and the preservation of both the mature children, is quite unique.

THE SURGICAL TREATMENT OF ADVANCED EXTRA-UTERINE PREGNANCY. By v. HERFF. *Ztschr. f. Geb. u. Gyn.*, xxxiv., p. 12.

In all cases of extra-uterine pregnancy past the fifth month, it is, according to the author, better, whether the child be dead or alive, to remove the ovisac as soon as possible, or at all events to obviate the dangers which are threatened by the perilous position of the placenta. If a pedicle can be formed in any way, the sac should be extirpated. Cases in which the pregnancy is intra-ligamentous or subserous offer much greater difficulties, and in these the proposals to remove the fœtus but to leave the sac, with or even without the placenta, alone till they are cast off or shrivelled in the natural course, after the completed obliteration of the circulation, are most generally acceptable.

When the ovisac is free in the abdomen, its opening, in two stages, gives comparatively excellent results, and is absolutely indicated as soon as the contents of the sac decompose and the woman becomes feverish. Marsupialisation of the sac must be mentioned as the most important of forced proceedings, a position it must always hold. This is more particularly the case if the removal of the sac is opposed by insurmountable difficulties, and also when one has to gain time. As difficulties to be considered, v. Herff instances adhesions of the sac on all sides, or firm and intimate with important organs—intestine or bladder—or a subserous development in the neighbourhood of the kidney. He gives the details of two operations performed by Kaltenbach, and of another by Fehling, and summarises the conclusions of the Halle clinic as follows: intra-ligamentous and subserous; the more unusual forms of development of the ovisac require, as a preliminary to the control of hæmorrhage, ligature of the uterine and spermatic arteries, bloodless enucleation of the sac from the periphery towards the placenta, with the free use of clamps and elastic ligatures; temporary tamponade of the wound cavity with gauze compresses, which are only removed one by one in order to ligature or stitch together the bleeding places. In some rare cases it may be necessary to secure the placental seat with ligatures to compress the aorta, to carry out a supravaginal amputation of the uterus, treating the stump extra-peritoneally, or to leave clamps in position. Miculiez' tamponade is suggested by persistent parenchymatous hæmorrhage, or when the dangers of secondary hæmorrhage have to be controlled.

J. J. M.

MEDICAL PREPARATIONS, APPLIANCES, ETC.

IRON JELLOIDS. (MESSRS. WARWICK, BROS.)

NUMEROUS as the preparations are for the administration of Blaud's Pill, we consider these so-called Iron Jelloids a distinct advance over any other we have seen and used. The shape and size make them very easy to swallow, and they are quite pleasant to taste. On section the special green of the ferrous salt is clearly seen, and it is evident that the outer coat preserves that ingredient in the form in which it is considered to be most easily assimilated. We have had many opportunities recently of prescribing these Jelloids, and have been much pleased with the results. Besides the simple Blaud's Pill of various strengths, these Iron Jelloids are made combined with other ingredients, in different quantities, such as liq. arsenicalis, ext. cascara, strychnine, ext. viburni, ext. aloes soc., ext. nuc. vom., ext. digital., and zinci oxide.

We understand that Boujean's ergotin and Parrish's Food are also now put up in a similar form.

CHINOSOL. (B. KÜHN.)

This preparation belongs to the quinoline group, and is claimed as a very powerful antiseptic, disinfectant, and deodorant. The published bacteriological reports of Professor Dr. Emmerich of Munich are very favourable, and he concludes his remarks by saying that he considers chinol to be greatly superior to carbolic acid and corrosive sublimate in many ways, among others in its not being poisonous. In this he appears to be confirmed by other bacteriological specialists. With regard to its practical use and results, we are in a position, after some months' trial of chinol in obstetric and gynaecological work, to speak in complete endorsement of the claims put

forward by the inventors. We have used it for disinfection of hands at operations, for instruments, for vaginal and uterine irrigation, for application to wounds either in fluid or powder form, and have been uniformly pleased with the results. Among its advantages may be reckoned the facts that it is not poisonous or irritating, that it is readily soluble in hot or cold water, that its solutions remain active, that it does not coagulate albumen, and that it does not stain linen or instruments.

It has a slight, not unpleasant odour, and does not harden or roughen the skin.

It can now be obtained in all sorts of forms, viz., pure powder, tabloids, ointment, soaps, and dusting powder. Chinosol antiseptic surgical dressings are also made.

Concerning its application to other branches of practice we are unable to speak, though analogy would suggest that it would be equally suitable to them, but certainly we think that many of its characteristics make it peculiarly suited to gynæcological practice, and well worthy of more extensive application.

NEW BOOKS, &c., RECEIVED.

(Besides exchangeable Journals.)

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THE BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, JULY 8, 1897.

PROF. A. W. MAYO ROBSON, F.R.C.S., PRESIDENT, IN THE CHAIR.

PRESENT : 27 Fellows and Visitors.

THE ASSOCIATION OF AN OVARIAN CYST WITH MARKED
BRONZING OF THE SKIN.

Mr. SKENE KEITH showed an ovarian cyst from a patient with an interesting clinical history. She was seen some years ago by Mr. Keith's father, who found a small, slowly-growing ovarian cyst. The patient's family doctor advised her not to trouble about it as long as it did not grow large. A year ago Mr. Skene Keith saw her ; she looked ill, suffered from sickness, and had marked bronzing of the skin, suggesting Addison's disease. The bronzing had been noticed for several months. He decided, in view of her bad health, to simply tap the cyst, and about 30 lbs. of fluid were removed. All the symptoms subsided, and the bronzing became less marked. The cyst refilled, and last week he moved it. He showed the specimen because of

the interest of the association of the cyst with the bronzed skin.

The PRESIDENT said that, unfortunately, they had not all had the same favourable experience of tapping as Mr. Keith had in this case. It was true that in the case of a simple parovarian cyst, even if some fluid escaped into the peritoneal cavity, no harm might result. But with ovarian tumours it was different. He had operated on a patient who had been tapped six weeks previously, and found the abdomen full of colloid material, although he could not find the point where the tapping had been done. Peritonitis had resulted. The patient recovered; but he felt that in the case of multilocular ovarian tumours there was considerable risk. As regards the bronzing, he had seen several cases in which this was associated with pelvic disease; the bronzing in such cases seemed to be entirely different from the pigmentation found in association with pregnancy. He thought it was probably due to sympathetic nerve disturbance.

Dr. HEYWOOD SMITH asked Mr. Keith if he had any theory as to the correlation of bronzing with an ovarian cyst, and whether he thought that the slow growth of the tumour in this case was associated with the constitutional condition. He had seen some cases of very marked pigmentation; one in particular, when he was Physician to the British Lying-in Hospital, in which the whole of both breasts became deeply pigmented and mottled, the colour becoming darker and darker on approaching the nipple.

Mr. SKENE KEITH, in reply, said he had seen bronzing in other cases, but had no theory to offer. He had known this patient for some time, and at the time of tapping she was very ill, suffering from what her sister called "faint turns." These came on about twice a week, and were probably of nervous origin. Under medical treatment she got quite well, so he did not think she actually had Addison's disease. As regards the tapping, he agreed with the President that in cases of colloid contents of a cyst, tapping

might lead to rupture. He remembered a case of his father's in which tapping was attempted, and on the following day the abdomen was opened. The needle puncture had become much larger, but the colloid matter was too thick to come out. But, as a rule, he thought tapping was free from risk. At one time he saw it done fairly often, and had not known of any bad results.

Dr. DUTCH showed an instrument for removing fragments of placenta after labour or abortion. It was on the principle of a large flushing spoon curette, but had a projecting hood which protected the fundus from injury. He had frequently used it, and found it very convenient.

CASES OF TUBAL PREGNANCY.

The PRESIDENT showed two specimens of tubal pregnancy. (1) In the first, the ovum was *in situ* in the tube. The patient was ill, and her last menstrual period was six weeks previously. She had a distinct pelvic tumour on the left side, and he suspected tubal pregnancy. He operated, and on separating omentum and intestine, he found blood clot in the pelvis. The finger came on a distended tube; its orifice was the point from which the blood had come. The ovum was found inside the tube. A hæmatocele had formed in the pelvis. If left, the tube would probably have ruptured ere long. (2) This was a more ordinary specimen of tubal rupture. The last menstrual period was ten weeks previously, and she had had irregular hæmorrhages. There was a well-marked tumour, and the patient had much pelvic distress. In separating adhesions there was abundant dark blood clot. After scooping it out by the handful he found the ruptured tube. Both patients recovered.

Dr. PURCELL said that he had shown at a previous meeting a specimen of tubal gestation from a patient from whom, six months before, he had removed the tube of the opposite side, on account of hæmatosalpinx. At the first operation there was a clot in the ostium of the tube, but

the latter had not ruptured. The second tube had ruptured before operation, and the mole containing the foetus was removed from the tube.

Dr. ARTHUR GILES observed that the first case mentioned by the President reminded him of a case he had seen some time ago at the Chelsea Hospital for Women. The patient had missed a period, her last dating six weeks back. She had had irregular hæmorrhage. There was no history of attacks of syncope. On examination, a well-marked tumour was felt to the right of the uterus, and a good deal of resistance in the pouch of Douglas. He diagnosed tubal abortion, with hæmorrhage through the unoccluded ostium of an unruptured tube. At the operation there were found, among the blood clots in Douglas' pouch, three separate ovoid clots, each resembling a tubal mole; on removing the tube the true mole was found inside it. There had evidently been a slow hæmorrhage into the tube, allowing some organisation of the clot, followed by expulsion of a cast of the tube on three different occasions. It was an instance of the kind of case described as "Missed Tubal Abortion."

THE MECHANISM OF INVERSION OF THE UTERUS. By Dr. HECTOR TREUB, Professor of Gynæcology in the University of Amsterdam.

Some months ago a woman, aged 33, was sent to my hospital for a tumour that presented itself before the vulva. The history of the case was not very clear. The patient had been pregnant three times, but in each case her pregnancy had ended in abortion in the third month. The last abortion occurred seven years ago. For some time, she did not know exactly how long, the patient had observed that something was protruding from the vulva, but she could always reduce it easily, and had never sought medical attendance for this. Eleven weeks ago a prolapse appeared suddenly, and could not be reduced. This caused her much pain, and brought about hæmorrhage to the extent of making her

swoon. Since that moment her general health has deteriorated; she has lost meat-juice-like fluid, and has been feverish. I found an extremely pale person, who on her admission to the hospital was indeed feverish. Outside the external genitals was an irregular tumour, of a faint red colour, whose surface presented a great many clefts. The consistence of the tumour was soft. In following the tumour, which disappeared in the vagina, with my finger, I could find no trace of the border of the uterine mouth, the tumour gradually passing into the vaginal wall. On taking the whole tumour in my hand, and pulling it out by force, I saw that the vaginal part was of a deeper red and of a smooth surface. The last part of it that could be brought to view without causing the patient intolerable pain presented the characteristic design of the arbor vitæ of the cervix. The diagnosis of total inversion was easy enough after this examination. The irregular part of the tumour gave me the impression of a sarcoma of the internal uterine wall. Microscopical examination, however, brought to light that there was nothing but a very œdematous hypertrophic mucous membrane. This fact made the prognosis better, but it did not change anything in the indication. There could be indicated nothing else for saving the woman's life than the removal of the inverted uterus. The patient being anæsthetised during the operation, I could bring the extreme border of the cervical mucous membrane out of the vulva, but it was impossible to invert the vagina further. The patient made a good recovery. Besides the œdematous mucous membrane, the uterus only showed a very small intramural fibroid near the fundus, and seated at equal distance from the inner and the outer side of the womb.

The microscopical examination of the uterine wall showed that the muscular tissue was in a very normal condition, and that there was no question of atrophy of the uterine wall. In this briefly-related case I find occasion to treat the question of the mechanism of uterine inversion.

In my case the mechanism is partly very easy to catch, inasmuch as it concerns prolapse and total inversion. Evidently there had been an inversion for a longer or shorter time, and it was the increase of the intra-abdominal pressure that made the inverted uterus come out of the vulva, and that, at the same time, totally inverted the cervix. But, on the other hand, it is very difficult to say what caused the inversion of the body of the uterus. Perhaps, nay probably, the small fibroid found in the fundus was the predisposing cause. The direct cause, however, and the way in which it acted, is not so obvious. If we take for granted that the fibroid was really the predisposing cause of the inversion (for otherwise we could only speak of an unknown cause), the difficulty of further explanation lies in the uncertainty of the different views that have been expressed on the mechanism of inversion.

Only in one group of cases of inversion is the mechanism wholly understood—viz., in those following immediately after labour. There, indeed, are present the two elements upon which, according to Gaillard Thomas, depends the production of the inversion: (1) relaxation and inertia of the uterine walls; (2) downward traction or pressure; and it is evident that a wholly relaxed uterus may be inverted either by traction on the umbilical cord or by pressure on the fundus, be it by means of the hand of the obstetrician or by abdominal pressure. But for all other cases this explanation is not sufficiently satisfactory, as little for inversion caused by tumours as for inversion occurring in the later days of the puerperal state. As to the latter, it is evidently making too light of the matter to adopt the idea Kuestner has developed in his last publication—viz., that these inversions really date from the delivery, and have only been overlooked. There are plenty of observations to prove the absolute incorrectness of Kuestner's opinion. The two kinds of inversion I have just mentioned cannot be produced, it is generally thought, without uterine contractions. For some years past Schauta, afterwards supported by Gottschalk, has

denied any action whatever of the uterine muscle in the mechanism of the inversion, and they have advocated the view that only the relaxation and the atrophy of the uterine wall, combined with the action of the intra-abdominal pressure, produce, and are able to produce, inversion. In Gottschalk's opinion, while uterine contractions are not to be denied during the formation of inversion, the inversion does not originate in the contractions, but *in spite* of them. Schauta's opinion, which is indeed nothing else than what had been said long before him, among others by Gaillard Thomas, whom I have cited above, but which he has emphasised more markedly, may give an explanation of some, probably rare, cases in which there is a marked atrophy of the uterine muscle, but evidently it will not do for all cases. First, the atrophy of the uterine wall is not at all constant, on the contrary, often the muscular tissue is in a very good condition. So, *e.g.*, in my case. Secondly, if it was really the intra-abdominal pressure that caused the inversion, why should total inversion of the cervix be so extremely rare? There is no reason at all in Schauta's theory to account for this well-known fact. My case again proves clearly that intra-abdominal pressure can invert the cervix too, when the uterine body has been inverted before, and when the fixation of the vaginal walls is too solid to permit of a simple prolapse of the inverted uterus. Thirdly, granted that the intra-abdominal pressure may in some circumstances produce a depression of a feeble part of the uterine wall, as soon as this depression exists, the surrounding muscular tissue will almost shut up the entrance of the inversion-funnel, and the further action of the intra-abdominal pressure will be rendered, if not impossible, at all events very feeble. Lastly, the difficulties encountered in trying to reduce the inverted uterus, and the absence of recidivation when the reduction has succeeded, prove conclusively that relaxation and intra-abdominal pressure are not sufficient causes for the production of the accident.

That, in trying to find a satisfactory explanation, the

assimilation of the post-puerperal inversion and that caused by tumours is allowed, can be easily proved. The condition called "enchatonnement du placenta" by French writers, has therefore to be taken into account. When the placenta is so firmly attached to the uterine wall that the contractions of the uterus do not succeed in detaching it, the contracting part of the uterine muscle excludes the paralytic placental site, and causes it to form an external protuberance on the uterine surface. This protuberance forms a pouch, and only a more or less narrow opening leads from the uterine cavity into it. If the placenta is then removed, the placental site gradually loses its paralytic condition, and begins to contract and retract, and so the primary and normal condition of the uterine wall is restored. Now, it may be readily assumed that the paralytic placental site can be as well turned inwards, be it by the weight of the placenta alone, by traction on the cord, or by pressure from above. In that case there will be a protrusion of the placental site in the uterine cavity, a partial inversion. If, under these conditions, the rest of the uterine muscle contracts strongly, this inverted part is more or less strangulated in the uterine cavity. Gradual spontaneous return to the normal state is also possible here, but it is not so easy, as will be shown further on. That, indeed, this condition can exist is proved by the following observation by Rokitansky, quoted by Gaillard Thomas :—"We must here mention a very singular circumstance, which may, on account of the consequent danger, become important, and may even be misunderstood in *post-mortem* examinations ; it is paralysis of the placental portion of the uterus occurring at the same time that the surrounding parts go through the ordinary processes of reduction. It induces a very peculiar appearance. The part which gave attachment to the placenta is forced into the cavity of the uterus by the contraction of the surrounding tissue, so as to project in the shape of a conical tumour, and a slight indentation is noticed at the corresponding point of the external uterine surface."

In such cases, as well as in cases in which a fibroid tumour protrudes in the uterine cavity, and in which the uterine wall is not at all atrophied, only muscular contractions can induce a further inversion. But in what way do the uterine contractions act here? That a submucous fibroid with a long pedicle is driven out of the uterus without inverting the uterus, is easy to understand. But it is generally the sessile fibroids, and even the smaller ones, that cause inversion, and there, just as in the case of post-*puerperal* inversion, the way in which uterine contractions act is not clear. Regular uterine contraction can never have any other effect than closing up the uterine cavity more and more. In *gynæcological* works irregular contractions are spoken of, but nobody can explain how these irregular contractions act, nor how it is that these supposed irregular contractions bring about the inversion of the uterus, no matter where the tumour be implanted, or which part of the *puerperal* uterus be first inverted.

Now it seems to me that the explanation is simple enough, and probably it is its very simplicity that has caused it to be overlooked until now. There is no regular contraction of the uterine wall in those cases, and there cannot be. The base of a sessile tumour cannot contract, because of the implantation of the tumour, which diminishes or altogether abolishes the contractility of that part of the wall, and it cannot be that only the contractility of that base is diminished; the surrounding parts must necessarily be feebler within a greater or smaller circumference. If from the outset the tumour was *intramural*, the smaller degree of resistance of that part of the uterine wall, coupled with *intra-abdominal* pressure, may occasionally bring about a slight beginning of inversion. And when this is the case, the conditions are essentially the same for sessile and *intramural* tumours, and for the partial inversion described by *Rokitansky*. A circle of uterine tissue is abruptly curved in the place where *Rokitansky* found the external indentation. I need hardly say that in that incurved circle the

uterine muscle must be absolutely paralysed. And this paralysis again will not be confined to a linear circle, but gradually diminishing will extend over a greater or smaller surface. The contractions of the normal part of the uterine wall will try to expel the part of the wall that acts as a foreign body. These expulsive efforts may slightly increase the inversion as far as the paralysis surrounding the circle of inversion permits, thus displacing the circle itself, and paralysing another part of the uterine wall. Necessarily the extension of the partial paralysis proceeds farther in the uterine wall too, and by the repeated action of this muscular play the inversion may gradually become complete as regards the body of the uterus. As soon as the body is inverted, there is no longer any excitement for uterine contractions, and the inversion of the cervix generally does not take place. And it is the intra-abdominal pressure again that may invert the cervix too.

This simple explanation of the way in which expulsive contractions of the uterus act under these circumstances is, in my opinion, the only one ever given that in the majority of cases enables us to clearly understand how inversion of the uterus is brought about. To conclude, I beg to add that many cases of intestinal invagination may be explained in the same manner.

The PRESIDENT congratulated Professor Treub on his mastery of the English language, and also on his very interesting paper, embodying an ingenious and simple explanation of a condition which was sometimes very difficult to understand.

Dr. PURCELL said that on one occasion he was assisting his colleague, Mr. Elam, in the case of a tumour in the vagina. No os externum could be found. The tumour, which proved to be an inverted uterus, was removed. The presenting surface was epitheliomatous; there was no tumour growth to cause inversion by traction. On examining the specimen it was found that the os externum had contracted to its normal dimensions, although the body of the uterus had passed through it.

Dr. HEYWOOD SMITH remarked that Dr. Purcell's case went to prove Professor Treub's theory. The epithelioma might have caused paralysis of the underlying muscle, and so have been the starting-point of the process. In some of the cases not depending on traction, the first point to become inverted was probably the orifice of one of the oviducts. Many years ago, before the introduction of the repositor, he had a case at the Hospital for Women in which he effected a reduction by first slowly squeezing the body of the uterus, to lessen its bulk, and then inserting one thumb into the orifice of one of the oviducts, which, being thin, began to yield, and the rest of the reduction was then soon effected.

Mr. SKENE KEITH said he would like to know whether the uterine contractions go on indefinitely, or even for some time intermittently. In either case Professor Treub's explanation seemed a very reasonable one. He saw a case in Edinburgh in which the first symptom of inversion came on eighteen years after the last confinement; she was seized with fainting in church, due to hæmorrhage. His father removed about half of the uterus, including the fundus and an attached fibroid. It seemed to him that Professor Treub's explanation would apply very well to this case.

Prof. HECTOR TREUB, in reply, said that he thought it possible of the uterine contractions that had occurred from time to time only, in the case mentioned by Mr. Skene Keith, and then an inversion could be quite easily understood; and he thought this case supported his theory. The uterine contractions were not continuous but intermittent; the result might be brought about in the course of weeks or months. Once a part of the uterus being paralytic and inverted the rest would go on contracting more and more. In Mr. Keith's case the inversion of the fundus might have been present for a long time, indeed, for some years before the inversion was completed; and in this way the hæmorrhage could be easily accounted for.

ESCHAROTICS IN THE TREATMENT OF UTERINE CERVICAL CANCER. By HERBERT SNOW, M.D.LOND., &c., Surgeon since 1876 to the Cancer Hospital.

To gain your attention for any remarks upon such a well-worn subject as the above, I must needs be very practical and very brief. I shall therefore not attempt to pass in review the numberless caustic substances which I have used, or which have been brought forward from time to time by others in this connection ; but merely put before you two or three simple axioms, illustrated by example, as the pith and marrow of my personal experiences.

I.—*The ideal caustic for malignant disease of the uterus or elsewhere is Potassa Fusa.*

Some years since I had occasion to make experiment, in my own person, for a very deeply-seated warty growth under the finger nail, with various caustics—nitric acid, nitrate of silver, zinc chloride, potassa fusa. That experience, though prolonged and painful, taught me a little fact not recorded, so far as I am aware, in my text-book, and which has since been of great use to me, viz., that while everything else caused prolonged agony impossible to alleviate, the action of caustic potash, and with that all attendant pain, ceased instantaneously *on contact with water.*

The only substance which enters into competition with the preceding is zinc chloride, an equally efficient escharotic. But the severe pain from this cause cannot be stopped by alkaline carbonate, or by any other means known to me ; and I found that when applied freely to the uterine cervix the subsequent suffering lasted for days, involving considerable prostration, whereas, after using successive sticks of potassa fusa for an hour, a copious syringing immediately ended all unpleasant sensations, and left no symptoms of shock behind.

The muscular tissue of the cervix offers a remarkable degree of resistance to the action of escharotics, and by well

packing the vagina round with wet sponges, changed from time to time, very prolonged applications can be made with perfect safety. But as it is impossible, in advanced cases, thus to eradicate the infected vaginal *submucosa*, and the dangerous lymphatic plexus leading up to the broad ligaments, three or four more sticks of caustic potash and a sitting of not more than twenty minutes will nearly always suffice for the maximum of benefit. Sponges soaked in water should be carefully packed behind the cervix.

It is best *not to scrape the uterus for cancerous disease under any circumstances*. That involves hæmorrhage, shock, risk of sepsis, besides the mechanical difficulty of seeing clearly what one is doing. Caustic potash promptly shrivels up all the soft granular tissue of carcinoma, with no bleeding.

The actual cautery is far too superficial for its action to be of value in uterine cancer, except as an adjunct to other measures. The same with the bromine, once extensively used. Any caustic application must be thorough; such agents as nitrate of silver and nitric acid do more harm than good. Zinc chloride and potassa fusa (or caustic soda and potassa cum calce, which are very much on a par) are of equal potency; but the perfect control over the potash salt, which we exercise by means of its affinity for water—a point not generally realised, I think, by the profession—confers upon it a vast superiority over the zinc chloride, whether the uterus or any other part is concerned. On the packing sometimes resorted to for uterine disease, I would only remark that it is surely far better to use an instrument which will readily obey one's hand, than to insert substances whose action we cannot watch over and restrain.

II.—*The entire uterine cervix can be eradicated without risk by escharotics.*

The following case belongs, as the date will show, to pre-hysterectomy days.

In 1883 I was consulted by a lady aged 43, the mother of ten children, who had been flooding for five weeks. A

vascular mass was felt within the os uteri, whose margins were healthy ; a free application of potassa fusa was followed by improvement, but the disease recurred in three weeks. The caustic was again applied, with the same result ; and the third time (in July, 1883) zinc chloride was used. After recovery the body of the uterus could be felt as a small round ball, freely movable on the finger ; the whole cervix having been extirpated. The patient remains well to the present time—fourteen years having elapsed.

III.—*Many cases of uterine cervical cancer would be more safely, and quite as efficiently, treated by escharotics as by hysterectomy.*

I have seen a number of *post-mortem* specimens in which the body of the uterus had remained unimplicated to the last, the carcinoma not having extended above the os internum.

The path along which infection extends, and where therefore recurrence must be anticipated, is formed by the lymphatic plexus in the vaginal submucosa, leading to the broad ligaments. This tissue cannot be extirpated by the most carefully performed hysterectomy. My own experience coincides with that of Dr. Arthur Lewers, who states (*Lancet*, 6, 7, 1895) that a complete hysterectomy will do no more to radically cure cervical cancer than will a well-considered supra-vaginal amputation.

The advantage offered by the removal of the whole uterus lies only in a concurrent extirpation of the cervical endometrium and its underlying tissue. It is obvious that this can be as thoroughly carried out by caustics as by the knife, and without risk.

The above applies only to diseases of the cervix, and not, of course, to lesions of the uterine body.

IV.—*Cases of advanced cervical disease commonly show remarkable improvement after Potassa Fusa.*

The following will serve as samples. I have never had any bad symptoms, much less a death, after caustic applications.

(1) Susan C., aged 53. In September, 1896, excavated cervical carcinoma of 2 years' duration, with induration of surrounding tissues. Free application of potassa fusa. Discharged practically well on October 12. Now attends as an out-patient from time to time in good health. When last examined (on May 17) the cervix appeared perfectly free from disease.

(2) Kate A., aged 61. In November, 1896, irregular ulceration of cervix extending to posterior vaginal wall. Two previous scrapings at a woman's hospital. Duration, about a year; three sticks potassa fusa. Discharged on December 3. No recurrence, so far as is known.

(3) Infiltration of entire cervix and of vaginal walls; great improvement after caustic. Life prolonged seven to eight months.

(4) Deposit in broad ligaments and infiltration of vaginal wall. Much temporary improvement in health, and marked relief of symptoms.

(5) Advanced disease of uterine cervix, without infiltration of vagina. The whole cervix extirpated by potassa fusa in three sittings. The disease was apparently eradicated. Death took place ten months afterwards from pneumonia, without recurrence.

(6) Extensive cervical disease, but apparently limited to this. The cervix destroyed by three successive applications, and the patient sent out to all appearance well. Subsequently lost sight of.

V.—*Papilloma uteri (cauliflower excrescence) is advantageously treated by crystallised iron-perchloride as a prelude to radical extirpation.*

Interference by ordinary surgical methods with the true cauliflower excrescence, a soft pulpy mass, sometimes filling the entire vagina, and bleeding profusely at the slightest touch, is well-nigh impossible in many cases without extreme risk. The iron-salt mummifies and clears away the villous texture down to its base, which can subsequently be

dealt with by potassa fusa. The following is a sample instance ; three others are published in the *Brit. Med. Journal* of May 21, 1881 :—

J. C., 38, married, six children. Symptoms of five months' duration. A pulpy mass, bleeding profusely when touched, almost completely blocked the vagina ; no healthy cervix could be felt. Three applications of the iron-salt were made at intervals of a week ; two or three crystals being pushed to the top of the vagina, and retained by pledgets of wool soaked in carbolic oil. This was in October, 1889 ; in November the woman went home with the whole of the pulpy mass removed, and with a small excavated ulcer in the cervix as the sole remainder of a lesion which would otherwise have proved rapidly fatal from exhaustive hæmorrhage. She was urgently entreated to undergo further treatment, but refused, and about September she became pregnant, was safely delivered at full term in June, 1890, of a male child, by Mr. Barnet, of Lewisham, who informed me that the cervix was extensively infiltrated with cancer.

The PRESIDENT observed that the paper was of great interest, and if the treatment by potassa fusa enabled them to deal successfully with cases where hysterectomy could not be done, much good would follow. Some of them would not agree with Dr. Snow's conclusion that hysterectomy was not a radical curative procedure, because they could point to cases where this operation had been done, and where the patients had remained well for a much longer time than the three years considered necessary to establish a cure. He would like to hear some further details of the mode of application of potassa fusa ; he had always regarded it as an agent rather difficult to control on account of its deliquescent properties. He had, however, used chloride of zinc with satisfactory results.

Mr. SKENE KEITH said that he had used potassa fusa a good deal, and believed it was originally an old Edinburgh remedy. He had applied it through a large Fer-

gusson's speculum, rubbing it in, in the form of a stick in a holder. To prevent it from unduly spreading he used pyroligneous acid. He had never seen any bad results, but had heard of one case where the surgeon had lost a piece of the caustic inside the uterus, and at the *post-mortem* a hole was found in the uterus.

Dr. PURCELL took exception to Dr. SNOW's method of treating cauliflower growth with perchloride of iron. His own plan was to cut away all redundant masses with scissors, and then thoroughly remove the growth with Jessett's dredge curette. Having seen the dirty condition resulting from the use of potassa fusa he had ceased to employ it, and preferred chloride of zinc. From the latter there was no after-pain, and it necrosed the entire body, which came away in the form of a cast; the body then shrivelled up. Specimens he had shown. The cases had done well, being too far diseased for removal of the entire uterus by vaginal hysterectomy.

Dr. HEYWOOD SMITH said he could endorse all that Dr. SNOW had said about potassa fusa; it was, no doubt, dangerous in the hands of those unaccustomed to its use, and of timid persons who, using potassa cum calce as a milder preparation, were tempted to have it applied to the cervix, which might result in mischief. It was much used by Dr. Henry Bennett, and by his own father, forty to fifty years ago. The best antidote to use with it was vinegar, which was more efficacious than plain water. At the first sitting it acted on the mucous membrane, and afterwards on the diseased tissue itself, which then became gradually pushed out by the healthy tissue beyond, so that instead of a concave surface they had a bulging of the diseased tissue, on which fresh applications could be made till all was destroyed. It caused a little hot pain at the time, but by syringing with vinegar and water this was very soon relieved. He believed that in potassa fusa they had a very valuable escharotic.

Dr. SNOW, in reply, said that in cases of epithelioma of

the cervix, three years' immunity had been obtained by many surgeons by a simple supra-vaginal amputation of the cervix; and if by means of the caustic the same result could be obtained, without sacrificing healthy tissue, he thought it was an advantage. He used a large uterine caustic-holder; a duckbill speculum was introduced, the patient being in the lithotomy position. Sponges soaked in water were placed against the posterior vaginal wall. The stick of caustic was rotated in the midst of the diseased tissue till it was all dissolved; then another stick, if necessary, till all the diseased tissue was black and destroyed. The healthy uterine tissue was very resistant to the action of the caustic, and taking the precautions above mentioned, nothing was more manageable than potassa fusa. A typical papillomatous cauliflower mass was so soft and friable that he thought it would be very difficult to deal with it by Dr. Purcell's method. He had found water quite as satisfactory as vinegar in counteracting excessive action of the caustic and pain. The cervix must always be grasped with a vulsellum to ensure passage into the cervical canal.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, OCTOBER 14, 1897.

PROF. A. W. MAYO ROBSON, PRESIDENT, IN THE CHAIR.

PRESENT :—28 Fellows and Visitors.

The following gentleman was elected Fellow of the Society :—Wm. Bain, M.D., F.R.C.S.E., Harrogate.

Dr. MACNAUGHTON-JONES showed a

CASE OF CARCINOMA OF THE UTERUS AND LARGE FIBROMA, OPERATED UPON BY VAGINAL HYSTERECTOMY.

The specimen shown consisted of a carcinomatous uterus, and a fibroid about the size of a foetal head. The patient from whom the growths were removed was a woman aged 52. The only symptom from which she had suffered since her menopause was that of occasional slight hæmorrhage. Of late this had increased, and she consulted Dr. Macnaughton Jones for it at the latter end of August this year. She had never borne children, and her husband had been dead for several years.

On examination the vulvar orifice was found to be small, so much so that the introduction of any speculum was too painful without an anæsthetic. Digitally, a small growth was discovered protruding from the os uteri, the cervix feeling otherwise quite healthy. He advised an examination under an anæsthetic, and thorough curettage of the uterus if advisable. This latter step was carried out. The uterus was then found to be filled with a fungoid mass, the sound passing for nearly four inches into its cavity, and

the fundus considerably enlarged. The curetted *débris* was examined by Mr. Targett, who reported that it was carcinomatous in nature. Vaginal pan-hysterectomy was then determined upon, and this operation was performed on September 22.

The separation of the uterus was very difficult, both from its crumbling nature and the adhesions surrounding it and the adnexa. Ligatures were used for securing the vessels. From its soft nature the uterus, as will be seen, came away in two portions, leaving the fibroid, which was larger than had been anticipated, and the removal of which proved to be exceptionally difficult. However, all bleeding having been arrested, and the adhesions which surrounded the fibroid being detached, a hand was introduced, after having previously divided bi-laterally the perinæum, in order to gain room, and thus guided a pair of powerful claw forceps over the tumour. By successive application of such, the tumour was ultimately compressed, turned over, and delivered. Drainage was made with iodoform gauze. The patient has made an admirable recovery.

Mr. Targett reported on the specimen as follows :—

“The specimen consists of three portions :—

“(1) The largest piece is an oval intramural fibroid, 5 inches in its chief diameter. It has projected from the back of the uterus near its fundus, and there are numerous adhesions upon its convexity.

“(2) The second portion probably represents the lower segment of the uterus. A section through it reveals a soft white growth, evidently carcinomatous ; it projects somewhat into the uterine cavity, and invades the muscular substance of the organ. There is no indication of its infiltrating a fibroid, which lies immediately below the growth.

“(3) The third (long) piece consists of the cervix uteri, with the adjacent portions of the vagina and uterus. The os uteri and vagina are normal, also the internal surface of the cervix uteri ; but it is probable that the region of the internal os is invaded by the new growth.

"Portions for microscopical examination have been taken from 2 and 3.

"The section of the wall of the uterus presents a columnar-celled carcinoma, invading the muscular substance of the organ. The tubular arrangement of the cells is not well preserved except at the growing margin; the remainder consists of solid branching columns of epithelium. A section of the cervix uteri is found to be free from new growth; but here as well as in the body of the uterus the muscular coat shows much inflammatory infiltration between the bundles of muscle fibres.

"J. H. TARGETT."

The PRESIDENT observed that the narrowness of the vagina made the operation a very difficult one; indeed, the specimen seemed almost too large to remove through a virgin vagina.

Mr. BOWREMAN JESSETT asked if the perinæum was divided in this case; it sometimes made the operation easier, and though there was some risk, he had never found any drawback from it. The preliminary microscopic examination was a great advantage; but in a case like this he thought the naked-eye appearances were sufficiently conclusive to warrant an operator in proceeding at once to hysterectomy.

Dr. PURCELL asked where the adhesions were situated in this case. He thought that in dealing with such adhesions by the vagina there was considerable risk of injuring intestines or omentum; such risk would be avoided by employing the combined abdominal and vaginal method.

Mr. SKENE KEITH agreed with the President's remarks as to the difficulty of operation in a narrow vagina; he would like to ask Dr. Macnaughton-Jones whether, as a matter of saving time, it would have been an advantage to open the abdomen and continue the operation in that way. In one case in which his father was operating he thought more time was taken up by continuing the extraction

through the vagina than would have been the case had the abdomen been opened.

Mr. O'CALLAGHAN remarked that the combination of carcinoma and fibroid was rare ; and asked whether that was really a case of carcinoma. Apart from microscopic examination he would have thought that the breaking-down portion was due to sloughing of one of the many fibroids the uterus contained.

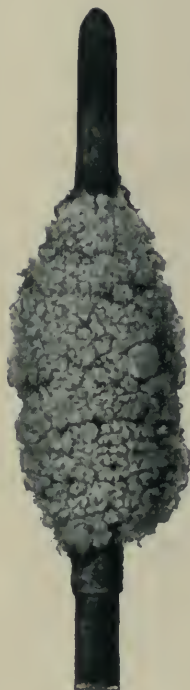
Dr. MACNAUGHTON - JONES, in reply, said that he saw Doyen operate recently in Paris on a very similar case, viz., carcinoma combined with fibroid ; but instead of a single fibroid mass there were several pedunculated sub-peritoneal growths. He removed all these through the vagina. The plan of opening the abdomen had occurred to him, but he decided, as the operation had already lasted an hour, that it would be better to complete it through the vagina. The difficulty of the case was due not so much to the narrow vulvar orifice as to the narrowness of the upper vaginal opening, and the extensive adhesions of so large a tumour.

SPECIMENS.

Mr. E. TENISON COLLINS showed the following specimens :—

FOREIGN BODY FROM BLADDER.

The patient from whose bladder this specimen was removed is a lady of weak intellect, aged 25. Its presence was discovered in the course of dilating the uterus for stenosis of the os accompanied by dysmenorrhœa. An unusual hardness of the anterior vaginal wall led me to pass a sound into the bladder and a stone was detected. It was not discovered in the preliminary examination owing to the rigidity of the abdominal muscles. A fortnight after the dilation of the cervix I dilated the urethra with Hawkins-Ambler's uterine dilators, and on passing the finger into the bladder found a projection at each end of the calculus which felt like a lead pencil, the ends of which were immovably



MR. E. TENISON COLLINS' SPECIMEN.

imbedded in the mucous membrane obliquely across the bladder. It was at once obvious that crushing was not a suitable method of removal, so I did vaginal cystotomy. On opening the bladder I fixed one end of the supposed pencil, and with the finger gently lifted the bladder wall off the other extremity and removed it. The bladder was washed out with warm boracic lotion, the vaginal wound carefully closed with five silkworm-gut sutures, the vagina lightly tamponed, and on removal to bed a catheter was placed in the bladder. The sutures were removed in a week, the wound being quite healed, and there has not been the slightest leakage or incontinence since. The substance upon which the deposit is formed is, as you will see, a small wooden penholder about 3 inches in length, and the clean extremities free from incrustation are the parts which were embedded in the bladder wall. The length of time occupied in its formation can be accurately determined, as two and a-half years previous to its removal the patient informed her mother that she had introduced it. She was examined evidently by the vagina alone, and nothing being discovered her statement was looked upon as groundless. An interesting point was the entire absence of symptoms pointing to vesical trouble, and this I account for by the fixation of the foreign body and the mental condition of the patient.

NOTES ON TWO CASES OF VAGINAL HYSTERECTOMY.

The two specimens before us are interesting from the fact that in each the only symptom was hæmorrhage regularly periodic in character, and the early recognition of the cause and removal gives a hope that a cure may be effected.

The first is a specimen of cylindrical carcinoma of the right cornu. The patient was aged 56, had three children, and the menopause had been established for about eight months. Hæmorrhage returned four months before I saw her and was monthly, lasting about a week. In the intervals there was no leucorrhœa or offensive odour, no pain or loss of flesh. When I saw her first the supposed period had lasted

for ten days, but was not excessive. On examination the os was healthy, the uterus was enlarged and the passage of the sound caused a little bleeding. I proposed dilating the cervix under ether, which was done the next day, and at the top of the uterine cavity to the right was a soft nodule about the size of a horse bean. This I removed with a curette, washed out the cavity with iodine water and packed with iodoform gauze, which was withdrawn the next day and no further hæmorrhage occurred. The specimen was sent up to the Clinical Research Association and pronounced to be malignant. A week after the dilatation I removed the uterus and tube and ovary of the right side, using ligatures for the broad ligaments. Two ligatures remained for eight weeks, and from the irritability of the bladder I feared they might be working out that way.

The second specimen is one of malignant ulceration of the posterior wall of the cervical canal just within the os. The patient, aged 46, had for some months previously suffered from menorrhagia, but no metrorrhagia or offensive leucorrhœa. She was very anæmic when I saw her. Examination revealed only enlargement of the uterus, which was quite mobile. I plugged the cervix and next day dilated under ether. On completion I felt a soft ragged hollow in the cervical canal, but the uterine cavity itself was quite smooth. I plugged the inner os and saw the hæmorrhage taking place from the ulcerated surface. The uterine plug was quite dry on removal. I curetted the canal and plugged the uterus with iodoform gauze after taking a snipping away with scissors. Microscopical examination proved it to be malignant, and I removed the uterus a few days later. I used Doyen's broad ligament clamps and Jessett's small needle for drawing down the upper borders well within the clamps, which I removed in forty-eight hours. There was considerable shock after the operation.

The after progress was in each case uneventful, and both patients are now both looking and feeling well and have both put on flesh.

Both cases emphasise the importance of complete exploration in cases of menorrhagia occurring especially in the malignant age.

The PRESIDENT said they could all bring forward evidence of foreign bodies in the bladder which gave rise to no symptoms. He removed from a man a large calculus weighing 4 ozs. ; there had been no symptoms till three weeks before operation, though it must have been present for many years. Indeed, there was a history of urinary symptoms ten or twelve years previously. Gall-stones and renal calculi might similarly exist for years without symptoms. So long as there were no inflammatory changes, no symptoms usually occurred. In answer to a question by Dr. Macnaughton Jones, he added that, as regards method of removal, he thought that in this case Mr. Collins had done the best thing in opening the bladder through the vagina ; but in the abstract he should say that the proper method of removing a stone from the bladder, whether in men or women, in the young or in the old, was by crushing the stone.

Dr. CLEMENT GODSON showed a foreign body which he had recently removed from a woman of 40, who came from a neurotic family, and was probably the subject of nymphomania. It consisted of a glass button-hole flower-holder. He was asked to see her as she could not pass water. He dilated the urethra, and passed in his finger and then forceps, and so removed it. As it had been in only a short time there was no incrustation on it.

Mr. TENISON COLLINS, in reply, said that he was glad to have the support of such an authority as the President on the question of the method of removal. He had a lithotrite with him ; but when he found that the stone was formed round an elongated body which felt like a pencil, he decided not to try to crush it or to remove it through the urethra because of the risk of injury to this passage.

Mr. SKENE KEITH read a paper on Dysmenorrhœa.

TREATMENT OF DYSMENORRHŒA. By SKENE KEITH, M.B.Ed., F.R.C.S., Surgeon to Out-patients, Samaritan Free Hospital; Surgeon to the Grosvenor Hospital for Diseases of Women, &c.

GENTLEMEN,—Dysmenorrhœa is a subject which has been and which doubtless will be discussed so often, that I should be loth to bring it before the British Gynæcological Society were it not that I think it possible to bring forward two little-used methods of treatment, and the reasons why they are useful. If the reasoning does not appear to be good, that does not fortunately affect the clinical results. Indeed, the explanation for one method followed the result—a want of science certainly, but not on that account bad practice.

Though rapid dilatation has certainly in part taken the place of the slower process by tents, and though many new drugs have been used, and their efficacy more or less lauded, no great advance in the treatment of uterine dysmenorrhœa has been made until comparatively lately since Simpson and Marion Sims divided the cervix, the one enlarging the uterine canal by dividing the cervix laterally, and the other by performing the posterior division of the canal, till Dudley devised his operation of division and stitches.

Uterine dysmenorrhœa, which alone will be treated of in this paper, is caused by a malformation of the uterus due to want of proper development. To this must be added the thickening of the mucous membrane along with the congestion, which is natural when moderate in amount, at the time of the menstrual flow.

Undoubtedly such a thing as uterine dysmenorrhœa does exist. That it is truly obstructive seems to me to be also equally certain, though there need not be an actual stricture. It is the bend *plus* the thickening of the mucous membrane and congestion, not the bend alone which is the cause of the pain. If this be a correct statement, then it follows that treatment may properly be directed either

to straightening the bend or reducing the circulation, and that the use of antispasmodics alone can only be, at the best, palliative.

The history which a patient suffering from this form of dysmenorrhœa gives is more or less like the following:—She says that she has suffered from pain every month since she first began to menstruate, that the pain commences with the onset of the flow, or very shortly after it, that it begins to abate when the flow is fully established, and that the pain varies in intensity from month to month. Almost invariably she will say the feet, and perhaps the legs as high as the knees, are cold. In old-standing cases there will be leucorrhœa and perhaps some menorrhagia. If the patient be married she will never have been pregnant.

With a history such as this, the probability, nay, almost the certainty, is, that if an examination be made, an ante-flexion of the cervix uteri will be found.

If, however, the history differs thus far that the dysmenorrhœa did not commence at puberty, but at some later period of time, while it is probable that a flexion will be found, there will be found in addition something to account for the bend. In such a case it will not be due to a want of development, and the bend is more likely to be situated in the body of the uterus.

The actual position of the bend varies. Most commonly it consists in a forward bend or ante-flexion of the cervix on the uterus, the body of the organ being in its natural position; not infrequently there may be either an ante-flexion of the body while the cervix remains in its natural situation, or there may be a bending forwards of both body and cervix. In this latter state the bend is much more acute. The condition of the bend—or, to speak more accurately, the position of the body of the uterus—is of importance in regard to both prognosis and to treatment.

When women suffering from this condition are allowed to go on too long without relief being afforded, secondary symptoms arise, due to interference with the general pelvic

circulation, the condition of the circulation being one of passive congestion, leading apparently in some cases to eventual disease of the ovaries.

Without tying myself down absolutely to the truth of the explanations I have given in regard to the way in which the pain is caused, still I have found two entirely different methods of treatment successful in the bad cases. The action of these two methods, and in addition both the preventive and general treatment which are often successful, especially when the pain is not very severe, can be shown to act in the way one would expect, if my explanation be correct.

The treatment of this form of dysmenorrhœa may thus be divided into two: first, that directed to reducing the amount of pelvic and uterine congestion; and, secondly, that directed to lessening the amount of the flexion or removing it altogether. The first may be subdivided again into general and local, while the second must be always local.

In every case, without exception, general treatment must be most thoroughly tried first, because many, and certainly all the slighter cases, can be cured or much relieved in this way, and also on account of the very evident objection there is to local interference. It is fortunate that this is one of the conditions which can often be treated without actual local knowledge of the condition of the pelvic organs. The general treatment, and with it the preventive treatment, may now be considered. At the time of puberty enough attention is not given, more especially in delicate girls, to keep up what is commonly called a good circulation. Many girls get far too little exercise—occasionally far too much and of an unsuitable kind—and far too little care is taken, both at home and at schools, to keep them warm, especially at night. People do not seem to think it matters to let a growing girl go to bed with cold feet, or if they do, imagine that to have a hot water bottle is coddling. A greater mistake is never made. It is essential that the feet be kept

warm during the night whenever there is uterine dysmenorrhœa, or indeed whenever there is any pelvic trouble. In some cases it is advisable to have the feet and legs thoroughly rubbed before going to bed.

The preventive treatment consists, then, in keeping the girl warm and in attending to her general health. When a delicate chilly girl is developing into womanhood, a winter passed in a warm climate may make all the difference whether she is to be a strong or a delicate woman, and at the same time dysmenorrhœa, if present, will usually be cured. To most this form of treatment is not accessible, and we must rely on the avoidance of too many lessons, of too much practising in a draughty schoolroom with probably perfectly cold feet, and in the indulgence of plenty of fresh air, with out-door exercise, not too violent nor continued for too long at a time, in going early to bed and not being up too early in the morning, in keeping warm day and night, and in the judicious use of the morning bath. Some may be able to bath in cold water, others will require to have the chill taken off the water, and others again may do well while standing in warm water to have first tepid and then cold water poured over them, and especially down the spine. The best guide to go by is that the person must feel warm by the time she has been dried. As soon as there is the slightest appearance of the "period" the girl must be kept rigidly to bed, and not allowed to get up until the pain is entirely gone and the flow is either over, or is at least past the worst. A large poultice should be kept over the abdomen as long as there is any pain. For medicine, a brisk saline draught at the commencement, or if possible twelve hours before, and then a mild diaphoretic, with a small dose of bromide of sodium or potassium if the patient be strong, or if weak some aromatic spirits of ammonia are best. Sedatives should be avoided as a rule, and the very favourite remedy—hot gin—should not be prescribed except for the very weak people. Three ten-grain doses of antitoxin given every hour will often relieve pain, but after a time this loses its effect.

When the dysmenorrhœa has lasted for some years, it is more difficult to effect a cure by means such as these, because secondary results have now come into play. In spite of this they should be tried in all cases where the pain is not very severe for six months, or better, for a year. It cannot be too carefully explained that this general treatment is not meant only to relieve pain at the time, but is intended to effect a permanent cure, otherwise it is difficult or impossible to get any average patient to take the rigid care which is necessary.

With the exception of the use of various drugs, there does not seem to be much difference of opinion about the general treatment of such cases, though the necessity for keeping the patient warm is often not insisted on as it ought to be.

When we come to the consideration of the local treatment, we find more or less difference of opinion, and it is not necessary to go over in detail what this one and that one has written on the subject, for they may all be classified. Opinions about local treatment may be divided at present among those who do nothing and will hear of nothing being done; among those who advocate the use of stem pessaries; among those who recommend dilatation, either slight or great, with or without curetting; and among those who advise lateral or posterior division of the cervix. To this number of methods I would add two, posterior division of the cervix with stitching—Dudley's operation—and the use of the constant current, after Apostoli's method.

(a) Those who will do nothing, and a sub-class, those who very seldom will advise anything, in all probability base their opinion on the very poor results that have come under their notice, either in their own practices or in those of others. This class appears to be a large one, and to it I belonged at one time.

(b) The stem pessary has had its day in the treatment of flexions. It is unscientific, and, what is much worse, it can only relieve, seldom cures, and may do harm.

(c) Dilatation requires more consideration ; it consists of two kinds, slight and great. The first has its advantages in certain cases. It is suitable in the case of married women, when the flexion is not great. In such circumstances, it is used in the hope that by distending the canal impregnation may take place, for, if the patient become pregnant, the dysmenorrhœa is cured. Its purpose is simple, and an anæsthetic is not required ; it seems to be entirely devoid of danger, and the patient does not require to stay in bed. When impregnation does not occur, the good effect passes off very quickly. This line of treatment is useless when the flexion is very acute ; for the unmarried it is also impossible, or, at least, very painful without an anæsthetic.

Over-dilatation has also its merits. It may be done with tents or the rapid forcible method. The action is not the same ; with the tents it is simply a distension of the canal ; by the rapid method there is, in addition, more or less tearing of the tissues when the operation is pushed to its fullest extent. Dilatation by means of tents is simply the before-mentioned slight dilatation carried a step further, and under similar circumstances may be admissible.

The advocates of the rapid method claim that it is suitable in all cases, whether the patient be married or not. If it cured or greatly relieved the majority of cases at the first operation, this treatment could have much said in its favour, for it is easy in its performance, and is, so far as I have seen, harmless, if the late Professor Spence's saying be remembered, that to pass a bougie through an urethral stricture what was most wanted were patience and sweet oil, though nowadays it would have to be something more than sweet. Many patients are not cured, unless, of course, they become pregnant, and I have heard a strong advocate of the method say that you must go on dilating until you get a cure. This necessity for repetition is a fatal objection, if by any other method even as great a proportion of cases can be cured by one single operation. With reference to this form of dilatation, there is one thing that must be borne in mind ; it is,

that when the stretching is done it must be done thoroughly. Hegar's dilators, or some similar instruments, are, as a rule, employed in this country, and they do very well, though sometimes, when the tissues are very hard, a doubled-bladed dilator does better. Whatever instrument is used, the stretching ought to be carried out while the uterus is fixed by tenaculum in its natural position; not, as is taught in some schools, when it is drawn to or outside the vulva.

(*d*) Simpson's lateral and Sims' posterior division of the cervix must have been performed a very great number of times, often with satisfactory results when the patients were married. The object of both operations is to enlarge the uterine canal; the objection to both is that this result is often only temporary. To give much prospect of the canal remaining open, it is necessary to keep a plug, preferably one of glass, in the canal, until the wound or wounds have thoroughly healed by granulation, and then to pass a bougie occasionally. The result of this irritation is that the cervix is apt to become hard, and symptoms may arise of as much importance as those the operation was intended to cure. As compared with dilatation these operations have no advantage; they do not do more good and they may do more harm; they are not safer or more easily performed, and the patient requires to be kept in bed for as long a time.

All these different forms of treatment are wanting in certainty; dilating, division, &c., may result in complete failure, there may be improvement neither in the symptoms nor in the local condition, and it is thus not to be wondered at that many able practitioners are opposed to local treatment. The logical position they have taken up in the past is strongly assailed by Dr. Dudley's modification of Sims' operation of backward division. Indeed, the modification makes such a great difference that it is practically a new operation. What is aimed at may briefly be described as the straightening of the uterine canal and the healing of the cut surfaces by first intention, so that there will be no hard tissue, or possibility of the old bend returning. The opera-

tion was described by my brother, Dr. George Keith, before this Society two years ago for the first time in this country. The most essential part of the operation is the accurate stitching together of each half of the wound made when the cervix is divided. Performed with the uterus in its natural position, with the help of a Sims' speculum three-quarters of an inch across, it is not necessary to rupture an ordinary hymen, but it is not an operation to be undertaken by those who either have not the dexterity or have not had sufficient practice to permit them to do it without drawing the cervix to the outside. Frequently, in bad cases, there is more or less tenderness and swelling in the pelvis, and the result of dragging down a uterus when the pelvis is in such a condition can easily be imagined. By this operation nothing is left to chance, and unless the cuts do not heal the cervix remains permanently in the position and of the shape it is left at the time of the operation. So far as I know, all the cases I have operated on have been cured or have been improved, not only as regards the monthly pain, but as regards the general health the gain has been well marked. Naturally the early cases have not done so well, on the whole, as the later.

The more the body of the uterus is anteverted, the less perfect is the result likely to be, and special care must be taken in such cases to split as far back as possible. Freedom from pain does not always result immediately, and the greater the anteversion the slower is the complete return to health, on account of the old standing congestion of the uterine body. In a few cases I have had to have recourse to electricity to complete the cure. This operation is specially suitable for all unmarried women, and for all married, except those who are afraid of becoming pregnant, as it frequently cures sterility as well as dysmenorrhœa. Some there are who will have nothing in the nature of an operation, and for them Apostoli's treatment will give relief.

When an unmarried girl is brought to me complaining of symptoms, probably due to a flexion, severe enough to

warrant treatment, and where, as is commonly the case, the mother has taken her from one doctor to another, and the usual remedial measures have been tried, I advise that an examination be made under ether, and that if a decided bend be found it be operated on at once. When such a one is found and the operation performed, it is only necessary to give the anæsthetic once more when the stitches are taken out. In this way the girl need know nothing more than that what was wrong has been put right. By using absorbent sutures the second chloroforming can be dispensed with, but the results are not so satisfactory.

It is somewhat difficult to know how much treatment should be tried before an unmarried girl ought to be examined. It is evidently often done too soon and often too late. For example, one of my most difficult cases was sent by her doctor in the country to a specialist, after all the usual remedies had been tried, and with the intention of an examination being made. Through some misunderstanding this was not done, a diagnosis of uterine neuralgia was made, a very ordinary prescription was given, and for two years the family doctor was thus led to believe that the uterus was normal.

So much for treatment directed to the rectification of the malformation, and which, to my mind, is much more rational than that directed to curing the result of the deformity. It can be done, however, and permanently. I found it out experimentally in the following way:—A married lady consulted me on account of severe dysmenorrhœa due to an exceptionally well-marked flexion. As she said that moderate dilatation had been performed between two and three hundred times without relief, I suggested that she should let me try if electricity would do her any good. The result of thirty applications was complete and lasting recovery. This was ten years ago; I would recommend Dudley's operation in preference. A considerable experience extending over a number of years has convinced me that electricity as used by Dr. Apostoli acts, in part at

least, by reducing the pelvic circulation, and it is in this way that the treatment seems to affect these antelexion cases. Certainly in this first one the simple passage of a sound thirty times could not have done much when over two hundred dilatations had done nothing.

The PRESIDENT, after conveying to Mr. Keith the thanks of the Society for his interesting paper, said that he had found Dudley's operation answer very well. He had been led to try it by Dr. George Keith's paper before the Society some time previously. It was simple and effective. He would illustrate its value by one case. He was asked by the matron of a hospital to see a sister who was laid up with dysmenorrhœa for four days in every month. He found stenosis and antelexion, and dilated. For three months she was better, then her trouble returned. He then did Dudley's operation, and her relief was complete and permanent. He always used chromicised catgut sutures, which did not require removal. He had not yet had a failure among his cases.

Dr. WM. TRAVERS had performed the operation four times; in each case everything had been tried without success. One, a neurotic woman, had been almost bedridden for seven years. The first two periods after went very well; at the third she had some return of pain: then she became pregnant, and remained cured. Another case was a servant who had suffered many years. She was now quite well.

Dr. HEYWOOD SMITH said that a combination of incision, dilatation, and the use of a stem pessary often answered very well. Dilatation alone did not usually give permanent relief. The incision ought not to be too free. This was a mistake that was often made; the mucous membrane alone should be divided at the internal os, just nicking the underlying muscle; then dilators should be introduced, and finally a sterilised glass stem pessary for a few days. He had tried Dudley's operation in one case, but had not been entirely satisfied with it.

Mr. TENISON COLLINS was led to try Dudley's operation after seeing Dr. George Keith's paper. He was at the time worried about an obstinate case in which he had already dilated twice. He did Dudley's operation, and the first period after the patient was free from pain, and was henceforth able to pass through her periods without lying up. A second case was equally successful. A third case was also sterile, and soon after the operation she became pregnant, and was delivered of a living child at term.

Dr. ARTHUR GILES said that, like the other Fellows, he was indebted to Dr. George Keith for the suggestion of this operation. Since hearing Dr. Keith's paper he had performed the operation about a dozen times, and in nearly all his cases the results had been very satisfactory. One case was very like that described by Dr. Travers; she had suffered from dysmenorrhœa for many years, and though married for twelve years was sterile, and had consulted many doctors. He performed Dudley's operation, and her two succeeding periods were quite painless; she then became pregnant. In one or two cases the results had not been so good, especially in the early months after operation. This was probably because when the condition had gone on for some time constitutional symptoms developed, which took some time to disappear, even after the local condition was rectified. In other cases, again, the dysmenorrhœa was partly of central nervous origin, and here the results would not be always satisfactory. But in spite of some failures, which they must expect with any operation, he thought this procedure had a very useful field. It should not, however, be employed indiscriminately, nor without giving general treatment a fair trial. He agreed with Mr. Skene Keith as to the importance of preventive hygiene in early life. To succeed here, they must secure the intelligent co-operation of the mothers. Too many mothers assumed that as they had suffered from dysmenorrhœa in their earlier days, it was only natural that their daughters should suffer also. They needed to be impressed with the teaching that there

was no physiological reason why so many girls should have their early years of puberty made burdensome by dysmenorrhœa.

Dr. SCHACHT said that this paper of Mr. Skene Keith's had emphasised the value of Dr. George Keith's paper, which he also had made use of in several cases with, so far, very satisfactory results. He thought it would be an excellent plan if at some future time all who had had experience of Dudley's operation were to send in tabulated reports of the results of their cases, whereby an accurate estimate of its value would be obtained. He would be very willing to analyse and summarise such reports for publication in the Journal.

Mr. BOWREMAN JESSETT observed that a great number of young girls, from 15 to 19 years of age, suffered from dysmenorrhœa, and were cured by general means. He thought it would be a great pity if the impression went abroad that the Society advocated the performance of this or any other operation for all such cases. He urged, therefore, that some caution should be used in selecting cases for operation. In cases of pure stenosis, dilatation, as recommended by Dr. Heywood Smith, would probably answer perfectly well, and for such Dudley's operation would not be needed.

At this point the discussion was adjourned to the following meeting.

ORIGINAL COMMUNICATION.

ASEPSIS AND ANTISEPSIS IN GYNÆCOLOGY.

By H. MACNAUGHTON-JONES, M.D., M.A.O., F.R.C.S.I. & E.

THE question is often asked, "Are the aseptic and antiseptic methods resorted to on the Continent more perfect and complete than those used by British surgeons?" The most satisfactory reply may be found in a short description of the methods pursued in a few well-known Paris clinics. Last year I referred to the perfection of the German practices as exhibited in some of the leading *Frauenkliniks* in Berlin. I can conceive nothing more perfect than the manner in which aseptic precautions are carried out in the University *Frauenklinik* of Berlin under Professor Olshausen. Before touching on the steps taken by our Paris *confrères* for securing complete antiseptis and asepsis, I shall say a few words bearing on the importance to the gynæcologist of this subject. I may divide these remarks under two heads: first, hospital antiseptis and asepsis; second, antiseptis and asepsis outside hospitals, whether in private "homes" or patients' houses. With regard to hospital methods, there can be no possible excuse for even the slightest defect in any of the details. Here economy has seldom to be considered. In his theatre, appliances and assistance, both before, during, and after operations, the surgeon is amply provided for; and it is simply unpardonable if any accident, which can by possibility be traced to a flaw in the methods, occurs.

It is therefore rather with a view to insisting on the need for caution *outside* the hospital operating theatre and ward that I respond to the request of the editor of this Journal

to write this short communication. I have not the least doubt that there is still, even with all our knowledge of the vital importance of asepsis, a great deal of inexcusable negligence in the manner in which this first essential of the modern surgical art is achieved; in short, there is much that is casual in the method in which preparations are made, and the regard that is placed on such precautions. Possibly this may arise from the fact that, though in a misty sort of way the need for them is recognised, it has only been of recent years that the profession generally has begun to realise their vital necessity. This observation applies to surgeon and nurse alike. Looseness in the education of both has generated a corresponding laxity in their ideas as to how complete asepsis is to be maintained, and we are now in that transition stage between the older practices of simple antisepsis, often indifferently carried out, and the far more scientific and correspondingly difficult aseptic procedures of the present day. Those educated under the old plan find it difficult to adapt their surgery to the demands of the latter, nor in some respects can we blame them, when we yet find responsible teachers and operators who speak in a slighting vein of the unnecessary refinement of care with which the Continental and American surgeons carry out aseptic surgery.

The differentiation of the terms antisepsis and asepsis is hardly understood. The need for separating into two distinct categories septic from aseptic operations is not fully appreciated or realised, either by surgeons or nurses. It is no infrequent occurrence for a nurse to constantly assure one that she is thoroughly versed in both anti-septic and aseptic methods, and yet to find that when she is subjected to the practical test of attendance upon an operation and attention to a case, she is deficient in many of the first principles of her work. There can be only one standard for the hospital surgeon on the one hand, and the practitioner or surgeon who operates in the private "home" or house on the other, and though

the latter may not be able to achieve that degree of perfection which should always be at the command of the former, still he must strive, so far as it is within his means and possibilities, to do so. Fortunately, in consequence of all the recently constructed appliances which render it easy for the surgeon to carry with him, without danger of contamination from any outside source, all his sterilised instruments, dressings, compresses, and sponges, as well as his various ligatures—and not only these, but also the sterilised nail-brushes, antiseptic soap, and the overalls for himself and assistants—the operator can reduce his risk of failure in detail to a minimum. And there is no longer any plea that can be advanced, either on the part of those who have to prepare for an operation, or of the operator, that the person whose life he is taking in his hands should be subjected to an unnecessary risk, for the incurring of which there can be but two explanations—either ignorance, or negligence. It may not, then (though rather late in the day) be without advantage to some to emphasise what true antisepsis and asepsis really mean. Following the lines I have indicated, I shall take for example the operative methods at the *hôpital Bichat*, and the *Installation* of Dr. Doyen in the Rue d’Jena in Paris, both of which I have been recently visiting. Professor Terrier was absent from the former, but I received at the hands of his colleague, Dr. Hartmann, and from Dr. Doyen at his clinique, that characteristic French courtesy which is nowhere more exhibited than by our Paris *confrères*. In both theatres I saw grave abdominal operations—for it must be remembered that these surgeons do not confine themselves to gynecology, but are equally able and experienced general surgeons.

I will first give a short description of the aseptic and antiseptic methods at the *hôpital Bichat*. Its surgeons insist on the importance of placing the conduct of both methods under the sole charge of a special pharmacist in the hospital. As elsewhere, a clear distinction is drawn between

the indications for *antiseptics* and their use in septic wounds and operations, and those for *aseptic* precautions where we are dealing with aseptic wounds, or with those patients on whom we can operate aseptically. Professor Terrier, assisted by Dr. G. Latham, formerly intern pharmacist to the *Bichat*, have clearly laid down the rules of practice in this hospital. The filter of Chamberland is altogether used, and through this solutions are passed previous to boiling. These are those of bichloride of mercury, carbolic acid, and boric acid, which are kept distinct from camphorated naphthol, iodoformed oil, iodoform and ether, &c. The dried powders of iodoform, salol, subnitrate of bismuth, &c., are kept in special bottles hermetically closed. It is the duty of the intern to prepare and have ready a certain number of antiseptic dressings—the tied tampons, the flat tampons for external dressings, the gauze and wadding, which are all kept covered by cotton wool and iodoform. To prepare the materials with iodoform, a quantity of iodoform is placed in a sterilised glass in a solution of 95 per cent. of alcohol, or of equal parts of absolute alcohol and ether, with the addition of about 1 per cent. of glycerine. When soaked they are dried on iron grills previously heated. The flat tampons are powdered by more iodoform immediately after being taken out of the ether bath. The dressings remain moist, and the iodoform is very adherent. It falls to the duty of the same person to see to the keeping of the prepared sponges or tents in the bottles, the stoppers of which are protected with emery. The tarlatan compresses are kept plunged in the antiseptic solutions in large jars.

Asepsis.—Terrier well classifies the indications that must be fulfilled in order to arrive at a perfect aseptic method : (1) Antisepsis of the part to be operated upon ; (2) antisepsis of the hands of the operator and his assistants ; (3) asepsis of all the instruments or objects which, during an operation, may come in contact with the wound ; (4) subsequent effective aseptic protection of the wound during the healing process.

With regard to the preparation of the patient and the hands and arms of the operator and assistants, a few words may be said. Previous bathing of the woman, free washing of her body with soap, thorough scrubbing of the part to be operated upon, and the covering over of it with dressings wet with various antiseptic solutions, and, in vaginal operations, previous antiseptic douchings of the vagina, followed by the insertion of antiseptic tampons, are the principal means to be employed. Wherever it is possible, these should be carried out in a separate room, and it may be right that in it the patient should be carefully shaved *before* being brought into the operating room. This shaving of the patient should be thoroughly done, and after the part has been denuded of hair it should be covered by a good lather of soap, and washed by the antiseptic. We cannot hope to carry out asepsis in vaginal operations thoroughly, and therefore they do not come within the scope of the aseptic method; but we may say that when the patient is placed in the position necessary for, say, vaginal hysterectomy, and the external parts have been thoroughly washed and cleansed, the last step should be sterilisation of the vagina, and this can be best achieved by opening the vulvar orifice well with two fingers depressing the perinæum, while we thoroughly and repeatedly douche out for some time the vagina with an antiseptic fluid.¹ As little of the surface of the body as is possible should be exposed for the performance of an operation. All the surrounding parts should be covered with flat compresses which have been antiseptically prepared, or have been sterilised previously, and then wetted with sterilised water. Such sterilised cloths are not applied until the skin has been finally washed with a solution of equal parts of absolute alcohol and 1 in 1000 of perchloride of mercury, followed by a final rubbing of sterilised wool

¹ For many vaginal operations I now adopt A. Martin's plan of douching out the vagina, when it has been well opened by the fingers and retractors, with sterilised or antiseptic fluid from pint champagne bottles, two of which are ready filled with the fluid. A nurse or assistant can do this from time to time during an operation, as required.

saturated with ether. No nurse or assistant whose hands and arms have not been prepared should take part in any of these manipulations, and if, through accident, any happen to handle or touch anything which has not been rendered aseptic, the hands should be again rinsed in the solution of alcohol and sublimate. As to the surgeon's and the assistants' hands, it may be safely said that it takes *at the very least ten minutes' time* to prepare these. Preferably, they should be washed (from the elbows down) under a tap of running water, and with antiseptic soap. The nail-brushes should be kept always in antiseptic fluid in air-tight glass boxes (which are now easily obtainable) or as at the *Bichat*, in glass boxes, to the covers of which they are screwed, being thus constantly kept in the antiseptic. The glass cover thus forms the back of the brush. The arms should be several times well soaped as well as the hands, the nails subjected to repeated cleansings, and the arms and hands both finally washed over with 1 in 1000 sublimate solution. Then the hands and wrists are pressed down and kept for a few minutes in a basin of equal parts of a sublimate solution and 1 in 1000 absolute alcohol. The hands of the operator, his immediate assistant, the overseer of the instruments and ligatures, or those of any nurse who may have to handle instruments, sponges, or dressings, should be prepared with equal care. There should also be, at the side of the operator, a small washstand with a basin, or preferably, a movable *lavabo* on castors, which has two jars provided with taps, containing sterilised water, by means of which his hands can be rinsed from time to time during the operation.

In any aseptic operation the following articles have to be sterilised : compresses, tampon sponges, gauze, ligature silk, silver wire, drains, and drainage tubes.

There are a few simple facts with regard to sterilisation which have to be remembered. Bacteria do not survive a temperature from 120° to 180° C., and the spores of bacteria are destroyed by lower temperatures than these when they are submitted to air which is saturated with

the vapour of water, while at even lower temperatures still—say 100° C.—micro-organisms succumb if the temperature be maintained for a sufficient time, and repeated by successive sterilisations. I need not here dwell on the different varieties of sterilisers for vapour and dry air which are in use. Those I myself employ are a stove of Poupinel, made by Lequeux (Maison Wiesnegg, 64, Rue Gay-lussac, Paris), and a modification of Chamberland's *autoclave*. The former is a dry stove, used specially for instruments and appliances, a small model of that employed by Doyen, and the latter a vapour stove for the sterilisation of the dressings, compresses and sponges, &c. In this stove can be placed, according to its size, air-tight nickel bottles containing the various articles to be sterilised. Such are portable, and can be carried by the surgeon in going any distance to an operation. The stove for the dry air contains copper or nickel boxes for the instruments, which are also air-tight. The dressings, previously moistened with water, not too tightly pressed in the nickel box, are subjected to a temperature of 140°. The dressings after sterilisation are moist, to which there is no objection. One hundred and twenty degrees of heat is sufficient for the sterilisation of the silk ligatures, as a greater degree of heat is apt to injure them. The silk may be rolled on nickel reels, wrapped in gauze, and placed, moistened with water, in a nickel bottle. Such silk serves only for one operation. The stoves used in the *Bichat* laboratory are a modification of the hot air ones of Poupinel. In the hot-air stove the temperature rises from 150 to 160°, and the sterilisation lasts for an hour. By the contrivance of a tube that leads from the summit of the chamber, passing through the cover and running almost to its bottom, all the water in the chamber is evacuated by pressure, and the stove is rendered dry. In a few minutes all the water has been got rid of, and the dressings are thus dried. The material in this case should not previously have been moistened with water, but simply impregnated with the vapour. There is a very large steriliser in the laboratory of the *Bichat*, that combines

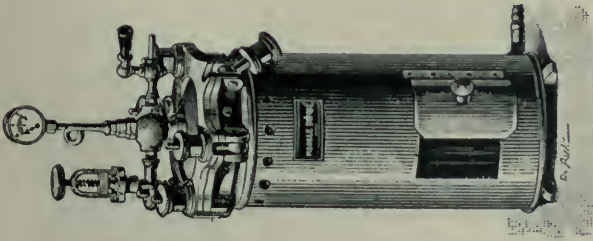
the two objects of sterilising the moist compresses and furnishing dry dressings. Here, also, are sterilised the different solutions employed for hypodermic or intravenous injections, which are kept ready in hermetically closed flasks. When the stove is dry the powders of boric acid, sub-nitrate of bismuth, and others, are sterilised at a heat of 150° . They are placed in glass bottles specially constructed with air-tight stoppers, and these are slowly cooled down in the dry stove. Catgut, dried and purified by maceration, first in a mixture of absolute alcohol and chloroform, then in a mixture of absolute alcohol, is placed in small packets in tubes closed by tampons of wadding, and is allowed to remain in the steriliser for the space of one hour at a temperature of 125° . Such a process in no way deteriorates the catgut. Bergman of Berlin places the catgut in 1 per cent. sublimate solution and 80 per cent. of alcohol. It is left for at least forty-eight hours. This immersion is renewed in fresh solution every few days until the fluid is quite clear; then the gut is kept in ordinary alcohol. I use gut that has been specially prepared for me by Frau Horn, assistant to Professor Martin, and I can testify to its pliability, strength, and aseptic qualities. Such catgut has been soaked on flat glass plates for at least eight hours in 1 in 1000 sublimate solution. It is then allowed to remain for at least twenty-four hours in a solution of one part of oil of juniper and two of absolute alcohol. It is then taken from this solution and placed in a similar one, in which it is kept for fourteen days before it can be used.¹

Terrier suggests as a good means of controlling the sterilising temperature to place in each bottle of dressings a test tube, that is, a small glass tube closed at both of its extremities, and containing some crystallised substance which by its fusion denotes when the desired temperature

¹ Splendid gut of every size, as used by Profs. Bergman, Olshausen, and Martin, may be had (with full instructions for its sterilisation) of M. Böhme, 54, Orienburger Str., Berlin.

has been exceeded or at least reached. Thus for the compresses, tubes with *anhydride phthalique*, fusing at 129° ; for silk, tubes with *benzoic acid*, fusing at 120° ; and for the stoves of hot air, tubes with *salicylic acid* fusing at 156° . These substances are coloured respectively green, violet, and red, with aniline. As a powder, the mixture is scarcely coloured, but it becomes very accentuated under the process of fusion when the mass is rendered compact. This change of colour is an assurance of the sterilisation, provided that the test tube has been placed in the centre of the bottle of compresses. At the *Bichat* the special laboratory, which is beneath the hospital and far removed from its wards, is partitioned into four compartments—one is reserved for the dressings intended for use on the following day. Once sterilised these dressings are brought back to the same compartment and marked as sterilised. To this compartment alone has the nursing staff of the hospital admission. The second compartment contains the sterilisers of vapour and hot air; the third is reserved for the preparation of antiseptic dressings, and the fourth contains a stove, with cultures for verifying the sterilisation. Here also is a distillation apparatus for the purification of the antiseptics used in the hospital, ether, chloroform, and bromide of ethyl, the purity of which is thus secured.

My object being, as I have said, to dwell on the necessity that exists *outside* a public hospital for the adoption of as complete asepsis and antisepsis as may be secured, I have nothing to say here of the operating theatre itself, though I shall show later on how a small private operating room can be constructed at a comparatively small cost, and, though not as perfect as the theatre of a hospital, can still, so far as the material for asepsis and antisepsis are concerned, be brought as near to perfection as can be hoped for with the means at our disposal. But if any are desirous of seeing the plans for the installation of perfect operating rooms in private institutions, they will find all they require in Dr. Doyen's recently published "*Technique Chirurgicale*,"



CHAMBERLAND'S AUTOCLAVE FOR VAPOUR
STERILISATION OF DRESSINGS,
COMPRESSES, &c.

At two kilogrammes of pressure the temperature reaches 134° . The dressings are kept in for three-quarters of an hour at 120° in open nickel boxes which can be closed air-tight.



MODIFICATION OF POUPINEL'S STOVE FOR BOTH INSTRUMENTS AND DRESSINGS.
Instruments to be left in for a quarter of an hour at a temperature of from 150°
to 160° ; the least.

(Doyen's Clinique.)



ASEPTIC OPERATING ROOM IN PRIVATE "HOME."

Greig Smith's glass and nickel operating table, sterilisers (dry and vapour), movable *laviatos*, boiler for hot water (Chamberland-Pasteur filter with

in which there is a complete description of the operation rooms and their annexes of his clinics at Rheims and Paris. (See also the drawings of various installations in Messrs. Flicoteaux's catalogue.)¹

I will devote a few observations to the appliances used by Doyen employed at these clinics. I am in perfect agreement with the views of this distinguished surgeon, that "When we lose a patient who has been operated upon, the most common cause of death is infection within the operative tract, an infection facilitated by the reduction of the vital resistance brought about in enfeebled and cachectic subjects, particularly among the cancerous. Many surgeons (we cannot too strongly insist upon this point) commit the grave error of believing themselves *à priori* aseptic, and account for their failures by causes other than the direct infection from the wound. This pretension to infallibility in antisepsis is as ridiculous as it is dangerous. Even in cases where complications occur at a distance from the field of operation, such as bronchitis, pneumonia, phlebitis, &c., it is very rarely found that they arise from any cause save as the direct consequence of interference." "If the patient should succumb," says Doyen, "carefully study the probable causes of death, and question your memory on the minutest details," and he goes on to remark that in an interference, out of all proportion to the vital resistance of the patient, which has been too prolonged; or to infection alone, we may often ascribe the fatal issue, and still more frequently to both causes combined. This conclusion he says he has come to as the result of many years of experience acquired in the service of various hospitals in which bacteriological observations of the most searching kind were conducted as to the cause of death after operations.

In the clinique of Doyen the antiseptics almost exclusively used are phenol and the bichloride of mercury, with the fluid of Labarraque. Water is sterilised by boiling

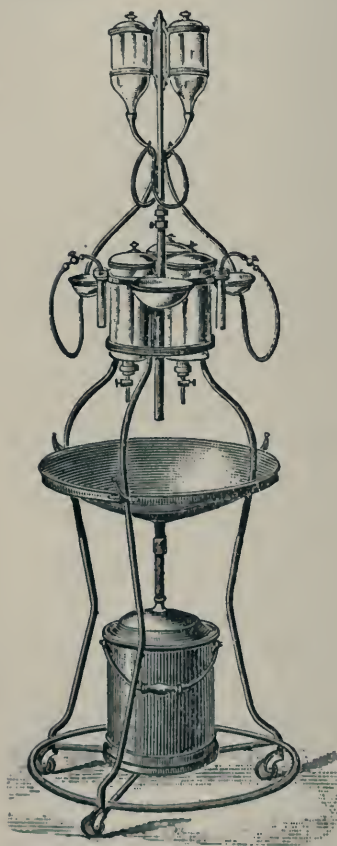
¹ 83, Rue de Bac, Paris.

under a pressure of about 125°. The compresses and silk are sterilised by vapour at the same temperature, and the instruments by dry heat at 160°. Catgut is sterilised by dry heat by Reverdin's method, then placed in phenic alcohol at a temperature of 105°, and preserved in the same fluid. Boiling carbolised water (5 per cent.) will secure the immediate disinfection of the *crin de Florence* and instruments which have not been in the steriliser. The operator's hands and arms are cleansed by successive washings, in warm water and soap, a sublimate solution of 1 in 1,000, and then a strong solution of phenol. He never employs any antiseptic powder, and for more than seven years he has absolutely forbidden any iodoform dressing, being convinced of its worthlessness. Tamponing with sterilised gauze, soaked or not with a solution of phenol, has given him far more satisfactory results than the employment of iodoform gauze. He regards diluted vinegar of Pennès as amongst the most useful of antiseptics when fœtor is present. For my own part, though I cannot say that I have altogether relinquished the use of iodoform, I am less and less inclined to believe in its efficacy. At the *Bichat*, as I have said, it is still employed, both in powder and dressings, also in the *Berlin Kliniks*. I have lately been using a solution of formalin for vaginal operations, both in tampons and for dressings, when there is any fœtor in the discharge. I also use a 2 per cent. solution to dip drainage tubes in or to cleanse any sinus with, and there can be no better immediate dressing to place over a wound than a narrow strip of sterilised gauze wrung out of the formalin solution. Chinosol I have also largely used for vaginal douchings, and have found it excellent.

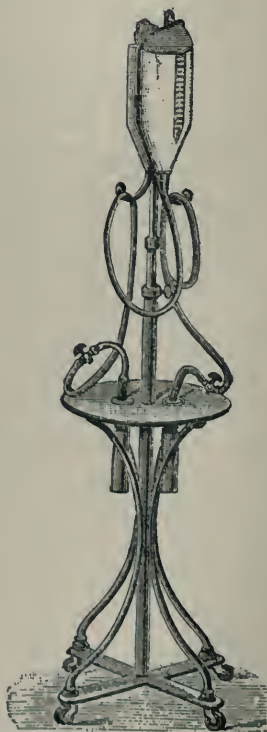
Doyen's antiseptic solutions are prepared in a special apartment adjoining the operating room. He employs for this purpose closed jars of enamelled iron containing 20 litres. Phenol in alcoholic solution is purchased in 2 kilogramme flagons, containing 1 kilogramme of absolute phenol dissolved in 1 kilogramme of alcohol (90°). Into

one of these jars, purified with boiling water, the contents of a litre of this fluid is placed, and 60 grammes of powdered borax is added ; then the remainder of the jar is filled with boiling water. Thus 20 litres of carbolised solution at 5 per cent. is obtained, the addition of the small quantity of borate of soda preventing the rusting of the needles and steel instruments which are not nickelled. The sublimate solution he uses is combined in its preparation with tartaric acid. This he considers renders it more stable, and gets rid of an inherent precipitate in the vessels in which it is kept. In the adjoining room leading into the operating room are the various heating apparatus, sterilisers (those for vapour and hot air, the moist and dry stoves), and all the accessories necessary for the operations. I do not delay to describe the complete apparatus which is used for sterilisation in the installation at the Rue d'Iena or at Rheims. Both the stoves to which I have referred are made by Monsieur Lequeux, of the Rue Gay-Lussac, 64. The vapour steriliser serves for the sterilisation of six bottles of compresses. It can also be used for the sterilisation of water in sufficient quantity for the washing of hands, or for use in the course of operations, the water being heated at the same time as the cylindrical boxes of compresses. Thus the operator can take to a distance, and without any danger of infection, when summoned to an urgent case, sufficient sterilised dressings for his operation, and the nickel bottles, hermetically closed, can be heated by immersion in boiling water for a short time. In this stove are also prepared the flagons which contain from 50 to 100, or 250, grammes of artificial serum, that is, 7 of chloride of sodium in 1,000 of water. The serum is sterilised at 130° and injected in a dose of from 50 to 200 grammes, as often as twice or three times in the day, or even oftener in grave cases, subcutaneously. By an ingenious arrangement of tubes and bottles connected with the vapour steriliser, the solutions of phenol and sublimate can be brought perfectly sterilised into the

operating theatre. In the dry stove both the boxes of instruments, the serviettes, compresses, aprons and wearing apparel, can be sterilised, and the instruments being kept in these hermetically closed boxes, they can be taken from place to place with the sterilised dressings for use in emergency.



Rolling apparatus to stand near operating table for rinsing of surgeon's hands and injections.



I refer the reader to the "*Technique Chirurgicale*" (Doyen, Paris : Masson et Cie., Editeurs, 120, Boulevard St. Germain), for the various other aseptic appliances, such as movable

washstands, injection apparatus, *porte-flacons*, as well as the most ingeniously constructed table for operation. There also will be found the description of the apparatus employed for photography and radiography. Messrs. Flicoteaux, 83, Rue du Bac, supply all these appliances and accessories. M. T. Leclerc, of 10, Rue Vignon, makes every form of sterilised compress and dressing.

I have thus sketched the main features of the aseptic methods of these installations. The one, a public institution, the other a private *Maison de sante*. A word as to the operations themselves, and this applies to both clinics. As little of the surface of the part to be operated upon as is possible is exposed before the first incision is made. For example, in oöphorectomy or removal of the appendix it is not necessary to bare more than a few inches, the needful space being left uncovered by placing the small aseptic cloths, taken straight from the steriliser, around the area of the wound. All the compresses and gauze dressings, as well as the sponges, are in like manner taken straight from the boxes, being brought into the operation room as they have been taken from the steriliser, and these compresses and dressings are alone used (without any disinfectant) for hæmostasis, *tamponnement*, the exclusion of the intestines, the protection of organs and vessels. The compresses are easily caught with a catch forceps, which is thrown over the edge of the wound so as to facilitate removal. As to the substance used for ligatures, choice may vary, but as a rule fine silk is used for the peritoneum, somewhat thicker silk for the fascia and muscle, and medium gut for suturing the integument. When the operation has been concluded and hæmostasis secured, the entire wound is thoroughly cleansed with the sterilised compresses, fresh ones being used to absorb any oozing, as also to facilitate the pressure or ligature of any small vessels that may continue to give trouble. Hot sterilised water is sufficient should any irrigation or washing of the wound be necessary, and if the tampon has to be resorted to sterilised gauze is

employed. Doyen says that the *crin de Florence* is preferable to any other form of suture for the skin, on account of its solidity and its toleration by the tissues.

In true aseptic operations drainage is seldom necessary, and can only be so when we fear bleeding or oozing within the wound, or when we wish to avoid a sero-sanguinolent collection of fluid. On the other hand, drainage becomes a necessity where we are dealing with septic conditions, and in those cases of laparotomy in which purulent fluid has been evacuated in the course of the operation, and again, in such operations as vaginal hysterectomy. Take a classical example, oöphoro-salpingo-pan-hysterectomy for double pyosalpinx with adhesions. Here, after completely clearing the pelvic basin and thoroughly cleansing and drying it, sterilised gauze, or sterilised iodoform gauze is passed through the vaginal opening into the vagina, which is then shut off from the pelvic cavity by sutures, and a stout rubber tube is carried through the abdominal wound, its other end being left in the pouch of Douglas.

When an operation has been thus completed, no one in its entire conduct having touched anything used during its performance, from first to last, whose hands have not been prepared aseptically, we may look upon it as a thoroughly aseptic operation. Over the strip of sterilised gauze which covers the wound, or, if some prefer, the iodoform gauze, the best covering is a large and thick compress of sterilised wool.

From what I have said I think it is manifest that with the facilities we now possess of carrying about with us in a properly constructed bag everything that can by possibility be required for an operation perfectly sterilised, if we have an intelligent assistant, conversant with the aseptic methods, we can fulfil most of the conditions that they demand of us. Clearing a room of all superfluous furniture and draperies, as well as carpets, selecting the one which is farthest removed from a lavatory, or other source of infection, we can in a few hours disinfect it, and the

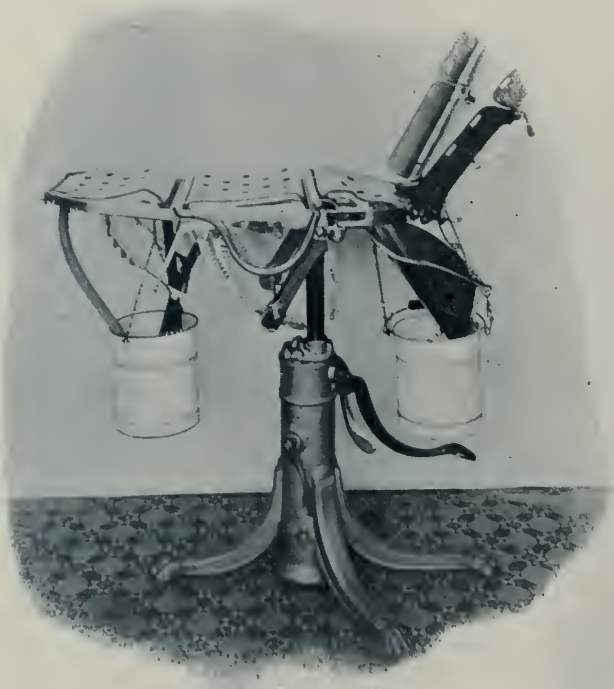
PLATE III.



OPERATING TABLE OF DOYEN.

(Doyen's Clinique.)

PLATE IV.



DOYEN'S TABLE ARRANGED FOR VAGINAL HYSTERECTOMY.

(Doyen.)

PLATE V



TABLE IN TRENDLENBERG'S POSITION.

(Doyen's Clinique.)

Reverdin's Tumour Elevator at the side, with Doyen's Screw-hook for raising large fibroid

PLATE VI.



PATIENT ON THE TABLE IN TRENDLENBERG'S POSITION.

(Doyen's Clinique.)

new Alformant lamp of the Formalin Company enables us to do this thoroughly, without injury to any surrounding materials, within a period of twelve hours. Perhaps the most dangerous element in an operating room is the uneducated or careless nurse. We are more likely to have to face this risk in the private house than elsewhere. Infection from hands, clothes, incautious handling of the patient or of soiled clothing, infectious wounds of the fingers, the presence of a cold in the head necessitating the use of handkerchiefs, are all loopholes for the admission of contamination. It is better always to make the most careful selection of the nurse or nurses who directly assist, and never to permit any of these to prepare the patient, or take part in placing her on the table, unless there has been the most rigorous subsequent disinfection secured before any instruments or appliances are handled. As to a private "home," a room with a suitable light can be properly converted into an operation room, and kept solely for this purpose, at a comparatively moderate cost. I include in this the preparation of the walls and ceiling, special floorcloth, vapour and dry air sterilisers, nickel bottles for dressings, compresses, &c., copper boiler for water, Chamberland's filter, rolling washstands with jars for antiseptic fluid, suitable operating table, electric operating lamp, and other necessary fittings. A beautiful new "lacquered paint" is prepared by Messrs. Flicoteaux, which gives a porcelain surface, and is capable of being scratched without detriment; thoroughly aseptic. All walls and shelves should be prepared with this. Without such a room no surgical home is really complete, and there should be in all such one person thoroughly conversant with the manner of preparing the various dressings and sponges, as well as both processes of sterilisation. I hope to refer at another time to some of the more recent and important improvements in the details of his methods in abdominal surgery, as practised by Dr. Doyen.

CLINICAL CASES.

INVERSION OF THE UTERUS.

By W. A. MACKAY, F.R.C.S. & M.D.Edin.

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INVERSION of the uterus too hastily considered appears to present a purely mechanical problem. I venture to chronicle the following case, as it illustrates those vital conditions which lie behind the mechanism :—

Mrs. S., aged 23, has been married for four years. One year after marriage she was delivered of twins, of which one was born dead, and the other died within half an hour. On this occasion there was much trouble with the placenta. It did not come away, and the doctor failing to remove it gave an injection of ergotine, which stopped the bleeding but did not effect the expulsion of the placenta. The patient then began to have daily rises of temperature, which gradually increased till high fever supervened. On the sixth day after labour the placenta came away in a terribly foetid condition. Convalescence was slow; but two months after the labour menstruation again took place, and the patient was by that time quite recovered.

She enjoyed good health till her second labour, which occurred in March, 1896. This labour was apparently normal and easy. A healthy boy was born, and five minutes later the placenta came away quite spontaneously. The patient, however, did not feel that all was right. The midwife then made an examination and immediately remarked that there was more to come away, and telling

the patient to bear down she began to pull on the mass in the vagina. Quickly recognising her mistake, the midwife then sent for a doctor, but he failed to reduce the inversion. After this many attempts at reduction were made and failed.

For three months the patient was confined to bed, bleeding off and on all the time and suffering from occasional attacks of fever.

In the month of June she came to Huelva, when I saw her for the first time. She was absolutely blanched and did not appear to have any more blood to lose, yet there was a constant bloody oozing from the uterus. The condition found on vaginal examination greatly resembled a large polypus protruding through the os.

In the above account of this case we note twins and retained placenta in the first labour, the second labour easy, the placenta expelled spontaneously, but apparently taking the fundus down along with it. Both the patient and her husband (who was present at the labour) are emphatic in their statement that no traction was made on the cord.

It may be in this labour, as in the first, that the placenta was unduly adherent and so brought down the fundus before it separated.

Treatment was begun very mechanically by asking a carpenter to make three sizes of Mr. Tait's repositors out of the hardest wood he could find. Meanwhile the vagina was washed out. This was a mistake, it increased the bleeding in a patient already bloodless. I soon found out that nature is grateful for the smallest assistance towards a normal condition. The vagina should be immediately packed with iodoform gauze in such a way as to reduce the inversion even by a little bit. When this was done bleeding ceased at once and the patient felt better.

Next day the first cup repositor was applied—much improvement took place in twenty-four hours; but the wood was not impervious to fluid, and sepsis with fever began. I had to desist.

On washing out the vagina and leaving the uterus without support bleeding at once came on again. The patient, whose pulse was 135, would probably have sunk at this point, but for the effect produced by packing with iodoform gauze. I now wired to Paris for cup repositors. My young doctor friend there went to all the principal instrument makers. He could only find one repositor, about the size of Mr. Tait's largest, and with a stalk made in two pieces, so that by screwing up and down you could lengthen or shorten the stem. I cannot conceive that this instrument could ever effect reduction, as the pressure of the end of the stem on the posterior wall of the vagina, however well guarded, soon becomes painful. I therefore applied elastic pressure after Tait's method to the stem of the French instrument, and then packed all round with iodoform gauze.

The patient now began to improve, and after forty-eight hours of considerable pressure the fundus was getting inside the os. At the end of seventy-two hours the reduction was almost effected.

A smaller cup should now have been introduced, but I had none, and everything I tried slipped off the fundus. I therefore left the large cup acting. That night I had to go out of town and did not again see the patient for eighteen hours. When I called the next day the inversion was completely reduced, but the large cup was inside the womb, with the os and the cervix tightly contracted on the stem. I told the patient that our labours had been crowned with success. She was glad to be rid of the elastic pressure, and simply asked if the instrument would soon be removed. I replied somewhat evasively that that depended a good deal on the condition of affairs.

I then retired to consider the problem, which will only appear simple to those who are not acquainted with the contractile power of the cervix. Various experiments suggested themselves, including lithotrites and bone forceps. All were rejected.

An hour later I returned to the house of the patient

with chloroform, and accompanied by my friend Dr. R. J. Marshall, of Rio Tinto, who happened to be in Huelva. He gave chloroform very carefully to the patient, who was in an extremely exhausted condition.

Under complete anæsthesia I could not get the tip of a finger inside the os along the stem. After trying forcible dilatation for nearly an hour, and pulling on the stem of the instrument, to which a strong cord was attached, with more force than I have ever put on the forceps in a difficult labour, I failed signally to extract the cup.

The patient's surroundings, in a very poor house, were bad. Her condition was extremely critical. I feared, therefore, to try any form of gradual dilatation, even if such could have been applied. I therefore split up the posterior lip of the cervix in its entire extent, and then with some force the cup was delivered. Convalescence was very protracted. For a week the uterus had to be washed out daily, and discharged a considerable quantity of pus at each washing. Menstruation continued to be irregular and abundant till July of this year. I saw the patient lately, she is now in perfect health. It may be suggestive to note that the patient has an extra digit attached to the base of the little finger of the left hand.

Not many years ago a Professor in a British university told his class that he had, early in his career, amputated an inverted uterus, mistaking it for a large polypus. Now, however, we find this treatment actually recommended on the slightest pretext; while from America comes the extremely simple suggestion to open the abdomen, put a cork-screw through the fundus and pull it up. This triumph of mechanical genius has only one drawback: it must inevitably fail. After our experience in the extraction of the cup repositor, we are surely justified in recommending that no one should open the abdomen in the hope of getting the fundus through the contracted cervix.

We owe to the genius of Mr. Lawson Tait the idea of gradual elastic pressure, which exactly imitates nature's

method of dilating the cervix. Some of our American brethren have lately forgotten the maxim, "Never to dispel the illusions that make people happy."

We used to imagine that recent advances in pelvic surgery were mostly British. But writing here in Spain within sight of Palos and the Rabida, we admit that we are apt to be antiquated in our notions ; and yet, with a recent French writer, we find ourselves exclaiming, "We believe in the eternity of illusion."

CASES OF ECTOPIC GESTATION TREATED BY ABDOMINAL SECTION. (a) ECTOPIC GESTATION TWICE IN THE SAME PATIENT WITHIN SEVEN MONTHS. (b) UNRUPTURED TUBAL GESTATION. (c) RUPTURED TUBAL GESTATION. (d) TUBAL MOLE.

By RALPH WORRALL, M.D., Ch.M., Q.U.I.

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I HAVE been able to find recorded but two cases of repeated ectopic gestation in the same patient, and in both these the condition recurred only after the lapse of several years, whereas in that which I now describe but seven months elapsed before the patient's life was again imperilled by the same terrible accident.

(a) ECTOPIC GESTATION TWICE IN THE SAME PATIENT
WITHIN SEVEN MONTHS.

C. C. (multipara) was admitted into the Sydney Hospital on January 5, 1896.

The previous history was that she had missed the menstrual period due about Christmas, and that the previous period had been unusually scanty. She thought herself pregnant. For three weeks past she had noticed a lump falling about in the lower abdomen, especially on stooping. On January 1 she slipped slightly, and imme-

diately severe pain set in in the right inguinal region. She felt very ill and faint, and was put to bed by friends. On the 3rd, feeling better, she got up and began to do a little work about the house, when sudden agonising pain began, so great that she could scarcely stagger back to bed. She fainted several times, and it was noticed how cold she had become. There was slight hæmorrhage from the uterus. She vomited two or three times, and had not been able to get the bowels to move or pass flatus since the first attack of pain. The following was her condition on admission:—Blanched, anxious-looking; tongue dry and furred; abdomen greatly distended, tender all over, and very tender in right inguinal region, where a small nodule is felt, slightly movable; uterus is in normal position, slightly enlarged, fixed, not apparently connected with above nodule; os uteri patulous, but no sanious discharge now; slight irregular matting all over vaginal vault, which is considerably tender but not depressed.

Abdominal section was performed three days after second attack of pain and collapse. Median incision. Parietes very vascular. Peritoneum dark; on opening it many pints of dark fluid blood gushed out. The right broad ligament was moderately distended. On its posterior surface was a ragged opening, the size of a large half-crown, which was blocked with a firm clot. The intestines were greatly distended, intensely congested, and roughened with lymph. The Fallopian tube was not markedly distended. The ovarian artery in the outer border of broad ligament was quickly tied, and another ligature placed close to the uterine cornu. The rugged portion of broad ligament was then cut away and the ligament sutured from pelvic brim to uterus. Even then the hæmorrhage was imperfectly controlled; so after flushing with saline solution, a gauze roll was placed on line of suture in ligament, and a glass drainage-tube in Douglas' pouch. The latter was removed in twenty-four hours and the former on the third day. The patient made a very easy recovery.

The probable sequence of events and cause of the hæmorrhage was a primary rupture of the tube downwards between layers of broad ligament, the hæmorrhage thus being extra-peritoneal and limited by the tension of these serous folds. Then, in consequence of the patient resuming her household duties, a fresh hæmorrhage occurred, under the pressure of which there was a secondary rupture of the broad ligament into the general cavity of the peritoneum, the bleeding then being intra-peritoneal and unlimited.

On August 20 of that same year I was again sent for by this patient and was given the following history:—She had remained quite well since leaving the hospital until August 1, when she missed the period due on that date, and the following day was attacked by violent pain in the lower abdomen with slight collapse. She remained in bed for a day or two, but saw no physician. A week later a red vaginal discharge appeared, and continued up to the time of my visit. She noticed no pieces of membrane.

On the 17th there was a second attack of severe pain after exertion, and again slight collapse, from which she recovered next day and went about as usual, although feeling far from well.

On the 20th, just before my visit, after a hearty tea, she was seized with a third and most severe attack of pain, which she described as “agonising.” On my arrival I found her vomiting; blanched; pulse 60, very soft and compressible; temperature sub-normal; respirations sighing; voice weak.

The pain was most marked in the epigastric region, although it had begun in the pelvis, where the tenderness was greatest. There was considerable abdominal distension.

Per Vaginam.—Owing to the condition of the patient I could examine only imperfectly, but made out a tenderness in left anterior fornix and left Fallopian.

She was admitted into the Sydney Hospital, and abdominal section performed next morning. The intestine was firmly adherent to the parietes beneath the old cicatrix. On

opening the peritoneum a large quantity of dark fluid and clotted blood escaped. The source of the hæmorrhage was found to be the left tube, which, although unruptured, was considerably dilated, and held entangled in the fimbriæ of its abdominal ostium a tubal mole.

The abdominal cavity was thoroughly flushed in all parts with saline solution and a drainage-tube inserted.

The patient made an uneventful recovery.

(b) UNRUPTURED TUBAL PREGNANCY—REMOVED BY
ABDOMINAL SECTION ON FEBRUARY 27, 1897.

A. M., aged 28, multipara ; last pregnancy five years ago ; menses on continuously since last November, previous to which the flow had been regular and normal ; always ailing ; much abdominal pain. Patient being mentally deficient, the history was obtained with difficulty and imperfectly.

Physical signs.—The uterus was retro-displaced to the right, and fixed ; on the left was a mass the size of an orange, cystic, tender, and considerably but not entirely fixed ; vaginal vault generally matted and tender. With these signs a diagnosis was made of small dermoid cyst with twisted pedicle. On opening the abdomen the cyst was found to be closely adherent to the omentum and large intestine. These having been tied off and separated, the pedicle was ligatured and the cyst removed. A glass drainage-tube was inserted.

On section of the cyst at the close of operation, it was found to be the left Fallopian tube with greatly thickened walls, containing foetus of about one month, free from any sign of decomposition, in its unruptured bag of membranes, with clear liq. amnii. The broad ligament was folded over the tube, but the latter was absolutely intact and free from any sign of rupture. The great hypertrophy of the wall is certainly very remarkable, all writers agreeing that the wall of a gravid tube rapidly thins, and thus speedy rupture is

brought about. The uterus was normal, so that cornual pregnancy may be excluded.

It is to be regretted that a clearer history was not obtainable.

The patient made a good recovery.

(c) RUPTURED TUBAL PREGNANCY.

Ida T., admitted into Sydney Hospital on March 1, 1897.

History. — Menstruation had been quite regular up to February 26, when she missed the period due on that date. Six days afterwards, during coition, she was attacked with agonising pain in the pelvis, which recurred in paroxysms up to date of admission, accompanied with much vomiting. There was no discharge of blood or membrane.

She considered herself pregnant.

Condition on admission.—Pale; pulse 116, weak and compressible; temperature 100·6°; lower half of abdomen slightly distended, resistant, very tender.

Per vaginam.—Vaginal vault boggy and tender, but not depressed.

On opening the abdomen fluid and clotted blood in large quantity escaped. The hæmorrhage was found to be due to rupture of the right tube close to the uterus, so close, indeed, that the ligature had to be placed around uterine cornu. The peritoneal cavity was flushed with saline solution and a drainage-tube inserted.

The patient recovered.

On examination of the specimen the tube is seen to be scarcely at all enlarged, except at the point of rupture close to uterine end; the abdominal ostium is closed, contrary to what one usually sees at so early a stage of pregnancy, and especially where the ovum is situated at the other extremity of the tube.

(d) ECTOPIC GESTATION. TUBAL MOLE.

M. T. came to out-patient department on April 21, 1897, complaining of abdominal pains and general malaise. A

month before, her period then being two weeks overdue, she was seized with sudden severe pain in the lower abdomen, followed by faintness and vomiting. A similar but worse attack occurred a week after the first. In the interval and since the pains had been moderate. There was a discharge of blood and shreds of membrane during and after the first attack of pain.

On examination her condition was as follows :—Appearance markedly anæmic; an irregular tender lump was detected in the left inguinal region, and *per vaginam* the vaginal vault was irregular, hard, moderately tender, but not at all depressed. There was no increased pulsation of uterine arteries. The os was closed; the uterus very slightly increased in size.

On opening the abdomen the lump proved to be the Fallopian tube firmly adherent to omentum and sigmoid flexure. The pelvis contained about half a pint of old clot, shut in by adherent viscera.

The abdomen was flushed with hot saline solution and a glass drainage-tube inserted.

Subsequent examination of the specimen showed the tube to be greatly enlarged but not ruptured, with widely-open ostium, into which the forefinger could be easily passed. On section the contents were seen to be laminated blood-clot with grey streaks. Microscopically Dr. Jamieson reports the presence of chorionic villi.

The patient made an easy recovery.

These cases make twelve in which I have done abdominal section for ectopic gestation. There was one death, and in this suppuration had occurred in the sac a considerable time prior to operation. It is a remarkable fact that of these eleven cases two were instances of tubal abortion, a condition which was unknown before Bland Sutton called attention to it three or four years ago.

Hæmorrhage and discharge of pieces of membrane being symptoms common to both ruptured ectopic gestation and abortion of an early uterine pregnancy, it is of

great importance to clearly distinguish between conditions requiring treatment so different.

Bland Sutton suggests that a microscopic examination be made of the *débris* in the vaginal discharge, and if chorionic villi should be found this is decisive evidence that the pregnancy has been uterine. But this test, although an excellent one, is not always practicable, and I have been accustomed to rely upon the history of the case, the general condition of the patient, and the size of the uterus as ascertained by bi-manual examination.

The gravity of the symptoms in ruptured tubal pregnancy will be out of all proportion to the amount of blood lost *per vaginam*, and there will be also a tenderness of the abdomen not seen in ordinary abortion until after the lapse of several days, when, perhaps, septic peritonitis may have occurred.

Then, while the uterus is usually slightly enlarged in ectopic gestation, it is not anything like the size of a gravid uterus which has just expelled, or is about to expel, its contents.

A careful consideration of these points will prevent error.

With reference to the presence or absence of a lump in the pelvis in *ruptured* tubal pregnancy—a subject to which I have referred in a previous paper—I can only say again that in the worst cases there is no lump whatever, merely a slight bogginess of the vaginal vault. The blood being poured out into the general cavity of the peritoneum there is nothing to limit it, and consequently it cannot be defined as a circumscribed collection ; but when there has been pre-existing inflammatory trouble in the pelvis, or when from any other cause, such as minute size of the rupture in the tube or blocking of such aperture by a clot, the blood is poured out more slowly, allowing adhesions to form and matting together of viscera, then the vaginal vault will be fixed, hard, irregular, nodular ; in fact, the signs of perimetritis will be present.

Again, should the rupture be downwards (extra-peri-

toneal), between the layers of the broad ligament, there then will be a large mass blocking the pelvis, pushing up and to one side the uterus and depressing the vaginal vault ; but the general condition under such circumstances will be much less grave, and there should be, as a rule, no difficulty in separating such cases from the very different class which forms the subject of this paper. It is of great importance that such distinction should be made, because while in the treatment of *extra*-peritoneal rupture nothing further than rest and opium will probably be required, *intra*-peritoneal rupture calls for immediate abdominal section.

It is a debated question whether, in abdominal section for intra-peritoneal hæmorrhage, the cavity should be flushed with saline solution and drained. I had no reason to regret having practised both these proceedings in my cases, and consider flushing will remove the blood and clot more rapidly with less injury to the serous membrane and less exposure than sponging. It also, by the absorptive power of the peritoneum, restores to the systemic circulation a quantity of much needed fluid.

REVIEWS.

A MANUAL OF OBSTETRIC PRACTICE FOR STUDENTS AND PRACTITIONERS. By Prof. A. DÜHRSSSEN, M.D. Translated and edited by J. W. TAYLOR, F.R.C.S., and FREDERICK EDGE, M.D., F.R.C.S. H. K. Lewis.

Messrs. Taylor and Edge have brought out Prof. Dührssen's "Manual of Obstetric Practice" in a similar form to that in which they presented the English medical world with his "Manual of Gynæcological Practice."

We were able to speak in strong appreciation of the latter some time since, and are grateful to the translators for now introducing us to so extremely practical and clearly written a book. That it has met with a most favourable reception in Germany is evident from the fact that it has in the course of six years reached a sixth edition. This last, which is now before us, has been revised and enlarged by the addition of a chapter on Vaginal Cæsarean Section.

Whether in a manual like this, which is intended by the author as "a guide to students and a *compressed* reference book for the practitioner," such a chapter is advisable, is a matter of opinion. Personally we were interested in reading the description of an operation that we have never performed, but seeing that the indications for it must be very rarely met with, we should have liked a more lengthy account of them than the scope of such a book could afford.

After a short anatomical introduction, the Physiology of Pregnancy and Labour, the Various Presentations, and the Physiology of the Lying-in Period, are dealt with in succession. Each page is very full of facts and details. Indeed,

compression is carried to such an extent that this division of the book only occupies some ninety odd small pages. Prof. Dührssen is very emphatic about asepsis and antisepsis, and gives most careful and detailed instruction (well worthy of careful perusal by the student and many practitioners) as to the disinfection of the accoucheur, the instruments, and the patient. He evidently himself favours a 1 per cent. solution of lysol as an antiseptic in midwifery, indeed, he only suggests one other, viz., a 3 per cent. solution of carbolic acid, and merely once refers to corrosive sublimate.

In order to preserve the perinæum he recommends that after the patient is put on her side and told to breathe in and out rapidly, the accoucheur's hand, carried from the abdomen between the thighs, be placed on the advancing head and used to repress it during the pains, while the index finger and thumb of the other hand is placed near the posterior commissure of the labia, and by dragging in the side tissues of the perinæum concentrically the commissure should be relaxed, or that the "Ritgen" manipulation of Olshausen be tried, in which the forehead and then the face is expressed by means of two fingers in the rectum.

Should, however, the perinæum become "whitish," immediate incisions 1-3 centimetres in length in the lateral portions of the commissure are held to be necessary. Prof. Dührssen considers that expression of the placenta by Credé's manipulation should not be performed from half an hour to one hour after birth *during a pain*. He is very emphatic in advocating that *all* lacerations, whether of clitoris, vagina, or perinæum, of more than *one centimetre* in length should be immediately sutured with sterilised silk or silkworm gut.

In the management of the third and fourth head positions it is advised that "the patient should be laid on that side on which the part lies which we wish to bring down." This involves of course not only changes in the position of the patient, but ambidextrous skill on the part of the accoucheur, and this unfortunately all do not possess.

When discussing the condition of the mother in the lying-in state and the question of milk-fever, the author maintains that "all elevations of temperature over 38° C. (100.4° F.) should be looked upon as signs of disease."

Lying on the side is forbidden during the first few days to prevent the possibility of air entering the uterus. Local treatment, after emptying the bladder, is limited to sponging down the external genitals with $\frac{1}{2}$ -1 per cent. solution of lysol at least twice a day, and a pad of salicylic wool applied. Uterine irrigation is held to be superfluous in every case where strict antisepsis has been carried out, but is employed whenever there is any doubt.

Increase of the pulse alone during the puerperium, without corresponding rise in temperature, the Professor thinks to be indicative of thrombosis.

The pathology of pregnancy occupies the greater part of the volume and is very carefully and concisely described. Dührssen holds the same views as Spiegelberg, Cohnheim and Osthoff, as to the pathological condition underlying the "kidneys of pregnancy," viz., that spasm of the renal arteries, produced reflexly by irritation of the sensory nerves of the genital tract, is the cause, and that we have not a true nephritis to deal with.

When touching on extra-uterine pregnancy three degrees are spoken of—tubal, ovarian and abdominal; "the first is by far the most common; no fully proved instance of primary abdominal pregnancy is so far known, and only a few ovarian cases have been found." Whether those few cases were genuine would be a matter of doubt to some minds.

A few pages are devoted to a very practical description of the mechanism of the separation and expulsion of the ovum in abortion. When the abortion cannot be stopped, to secure complete expulsion of all the parts of the ovum tamponading the utero-vaginal canal is strongly recommended, with the usual strict antiseptic injunctions.

Dührssen speaks favourably of the benefit to be derived

from Walcher's position in cases of generally contracted pelves, and of symphysiotomy for flattened pelves, he says, "Whether symphysiotomy, which has recently celebrated its rebirth, will be able to keep its place in obstetric operations and to limit the indications for Cæsarean section, perforation and induced premature labour, is yet an open question which must be determined by further experience."

The kolpeurynter in the author's hands is a favoured means for dilating the cervix in those cases where, as in eclampsia, delivery must be hurriedly completed.

A chapter on puerperal fever, which is regarded as a preventable disease, closes the pathological part, and the remaining sixty pages are devoted to obstetric instruments and operations for which chloroform is recommended, and its method of administration fully described.

We are not aware that we have come across any writer who has been able to condense so much valuable information and so many facts into such a limited compass without seriously imperilling the value of his work. This manual of Prof. Dührssen may be read with much interest and benefit by all, and many of us will hope that it may be the precursor of a more elaborate work from the same pen, and edited by the same capable translators.

LAWSON TAIT'S PERINEAL OPERATIONS AND AN ESSAY ON CURETTAGE OF THE UTERUS. By W. J. STEWART MCKAY, M.B., M.Ch., B.Sc. Baillière, Tindall & Cox.

This small volume is composed of one chapter on each of the subjects mentioned in the title, with a preface by Mr. Lawson Tait. Both chapters are carefully-written expositions of the two subjects, but we must confess to being somewhat at a loss to know why they should have appeared now and in their present form. It is true that Mr. Lawson Tait in his preface expresses himself as quite satisfied with Dr. McKay's account of the flap-splitting operations, and Mr. Tait should of course be the best critic of any description of his own operations. As, however, all

of us have been for many years familiar (and most thankfully so) with Mr. Tait's methods, and are as satisfied as he is with our results, we are afraid that but few will care to follow Mr. McKay's latter-day exposition. We are surprised to find that Mr. Tait considers this description as "the first which I have seen full enough to be of any use to those desirous of doing these operations"; seeing that besides the many descriptions (by himself and others), Dr. Fancourt Barnes published a small monograph on the subject which ran through certainly three editions, and which contained several very good illustrations.

Mr. Tait makes no allusion to the second chapter on Curettage, and we ourselves have failed to discover anything in it worth noting that we have not already learnt from our text-books.

ZUR LEHRE VON DEN ANGEBORENEN UND ERWORBENEN VERWACHSUNGEN UND VERENGERUNGEN DER SCHEIDE SOWIE DES ANGEBORENEN SCHEIDENMANGELS MIT AUSSCHLUSS DER DOPPELBILDUNGEN: von Dr. F. L. NEUGEBAUER. Berlin, 1895. S. Karger. iv. + 223, med. 8vo. 6s.

The distinguished president of the Gynæcological Clinic of the Evangelical Hospital at Warsaw, has in this work collected 1000 observations of "congenital absence and congenital and acquired adhesions and contractions of the vagina, excluding cases of double formation." Of these 72 occurred among the 17,991 cases treated by him during the years 1884-1895.

He classifies this material as follows:—

	Collected Cases.	Personal.
Labour cases delivered:—		
By Porro operations ...	23	1
„ Conservative Cæs. Sect. ...	35	
Per vias naturales ...	245	
Adhesions of puerperal origin ...	186	33
Adhesions of congenital or non- peral origin ...	439	38
Total ...	928	72 = 1000

To these are added 6 cases of congenital hymeneal atresia, and 5 of adhesion of the labia minora, one of the latter being due to injury.

As might be expected, many of the cases have been taken from secondary notices or abstracts, the original reports not being accessible, but in addition to the 928 collected cases, the author also mentions many from Breisky, Puech, and others, which he has not been able to verify.

The treatment of these anomalies, in midwifery as well as gynæcology, is to a great extent still undecided, their genesis and etiology being of such deep interest, and their existence in many cases of such momentous importance to the patient that this collection of cases, so much more numerous than ordinary text-books, or even special works on gynæcology would have led one to expect, will be welcomed by many.

Total absence of the vagina is not always easily distinguished from total occlusion, and is included among non-puerperal cases. Amussat's and Huguier's operations and La Forte's electrolysis, &c., are of course mentioned, not so Hingston's successful operation in 1859 (*Canada Med. Jour.*, Feb., 1866) given in Rankine's abstract, one of the most remarkable recorded.

Of the cases of dystocia, 77, in multiparæ, were due to cicatricial stenoses from previous labours; such post-partum stenosis, even when involving, as in a case quoted from Harvey (*Exercitationes de Partu*, p. 345) not only the labia minora, but almost the whole vagina up to the mouth of the womb, may not prevent spontaneous delivery, but have too often resulted in rupture of the womb, or of the vagina or of the recto-vaginal septum. And even when birth has been spontaneous, there has been fatal vaginal laceration. Many cases are referred to abortion, several to criminal attempts to induce labour by caustic injections, one to the injection of perchloride of iron as a styptic.

Neugebauer refers to an article of his (*Archiv. f. Gynæk.*, 1873, s. 373) in regard to the evil consequences of pes-

saries in causing stenosis ; other non-puerperal cases have been due in children to vaginitis adhesiva—and in adults, especially in the upper third of the vagina, to the vaginitis adhesiva ulcerosa of Hildebrandt. Neugebauer has himself seen many instances of this affection, but would prefer to call it “kolpitis climacterica ulcerosa obliterans.” Many cases are ascribed to syphilis, tuberculosis, small pox and typhus, others to scarlet fever, diphtheria, pneumonia, cholera and dysentery, some to fluor albus and one to pemphigus.

Considerable space is given to extracts from the works of Breisky and Puech, Debierre, and the more important theses by Roman, Schumann and others. The author certainly does not share Puech's opinion as to the study of atresia in old women being *plus d'une luxe que d'utilité*. Meissner's opinion that, with the exception of the cases improperly described as hymen duplex, but really instances of retro-hymeneal occlusion, congenital stenosis of the vagina does not occur, an opinion which is becoming more generally accepted, is mentioned—but the analysis of the cases and the conclusions to be drawn from them is promised in a future work and is much to be desired.

The compilation was begun in compliance with a request from Chrobak, in 1893, for a contribution to the *Festschrift*, for the fiftieth year of the Berlin Gynæcological Society, to which society it is now dedicated, having proved too large an undertaking to be finished in time, and indeed, too voluminous to appear as part of the Jubilee offering.

THE DISEASES OF WOMEN : A HANDBOOK FOR STUDENTS AND PRACTITIONERS. By J. BLAND SUTTON, F.R.C.S. Eng., and ARTHUR GILES, M.D., B.Sc.Lond., F.R.C.S. Edin.

Any work emanating from the pen of these authors must, necessarily, be hailed with interest by the profession generally, and especially by those to whom this Journal is particularly dedicated. To these latter, indeed, the book will

have some concern as a *resumé* of the work done by the writers in advanced gynæcology. As a text-book for the student, however, we are afraid it will scarcely be regarded as having fulfilled its object, seeing that it can only be of value if supplemented, or better still, preceded, by some other real students' manual, such for instance as Hart and Barbour. It presupposes an amount of preliminary knowledge of the subject that such books are generally themselves presumed to give. It contains essentially the views held by two men who, despite their ability and experience in gynæcology, appear to be lacking in that intimate acquaintance with out-patient room teaching which is an absolute necessity in the writers of a book for students. This disadvantage looms out through all its earlier pages, rendering the primer-element too crude and condensed to be of sufficient service to the beginner ; for it must be remembered that the want of teaching of this subject in works on general medicine and surgery renders it imperative that a manual for students on such a division of their work should not fail in clearness. The contradictions and repetitions now and then occurring will no doubt be removed in any further edition. As a book it relies less on the instrument makers' catalogue than any other work of its kind ; indeed, to an extent which renders the fact not altogether an unmixed blessing. A student would be none the worse for knowing, for illustration, that there are such instruments as Nélatons and Sidney Jones' cyst forceps ; or the various shapes of large forceps bearing the name of Spencer Wells ; neither of these, however, appear either in the figures, or even in the text, although in dealing later on with operative measures it is said that "the student should realise that it is a part of his duty to make himself familiar with the names of the instruments, as well as to understand their use." Nor, indeed, have the authors been quite happy in their choice even amongst the few instruments that are figured. Fig. 103 represents the only, and to our mind the worst, form of uterine dilator with which we are acquainted ; the grasp it necessitates gives a

dangerous power to the user, and the direction of the force is through the uterine wall and not along the canal, made tense and straightened, in such operations, by the hold of the volsella in the anterior lip. The well-known and really valuable Hegar's dilators find no place. In the description of "flexions and displacements," anteversions, without defining to what extent, are said to be an absolutely "normal condition"; surely this is not quite a fact, especially if the amount depicted in fig. 1 (Dickenson) is to be accepted; indeed, the "bladder disturbance," noted afterwards as "a common nervous phenomenon," is much more often a physical factor, the result of hyper-anteversion, causing much real suffering to the patient. Dilatation of the cervical canal, sufficient to admit the forefinger, is suggested as a means of diagnosis, with a frequency scarcely to be commended. We cannot consider the use of the word *metritis* in a students' text-book, or indeed, as yet, anywhere else, to be "an unnecessary refinement"; the normally recurring hyperæmia, to which the uterus is subjected, must render the organ very liable to primary congestive conditions of constitutional origin, such as the gouty; and a dismissal of the word would only increase the tendency of the day to avoid general and adopt purely local means of treatment in such conditions. In the treatment of myomata it is noted that "oöphorectomy" is being rapidly superseded by "hysterectomy," but would a candidate for a diploma be very safe who promulgated, in the present day, this dogma to his examiner? The authors use the word "cælum" in every instance, regardless of the fact that the word does not mean the abdominal cavity alone, but as they qualify it on almost every occasion by adding "(peritoneal cavity)" they appear to share our doubts as to its suitability.

There is an excellent chapter on the "Differential Diagnosis of Ovarian Tumours," which will be read by surgeon or student alike with much advantage. For some cases of dysmenorrhœa dilating the cervical canal is recommended, but as later on this is advised only to be carried out to the

extent of a No. 8 dilator, not much permanent good could really be expected.

In what we may term surgical gynæcology the book is valuable reading, but as the authors' views on pathology and operative treatment have been so fully and ably described in larger treatises, the condensation process robs them of much of their pictorial power ; the description of the various operations are too brief to be of real service, the armamentarium described as required in each operation (remembering that Mr. Sutton's name would necessarily make this work relied on by many surgical beginners), falls far short of what should be wisely at hand. The light-hearted way in which the major operations are treated may be fairly summed up in the following abstract (p. 415) : "Supra-vaginal hysterectomy and pan-hysterectomy may be performed *easily, safely and quickly* ; convalescence is as rapid and as uneventful as after ovariectomy" ; and two hundred lines only are bestowed on the account of these operations. It is no disparagement of the ability and capability of the writers, one of whom, at any rate, stands in the front rank of gynæcological surgeons and pathologists, to express some doubt as to whether they have indeed succeeded in producing a text-book "that may prove useful to students for examination purposes, and which will also enable them to practice this important department of surgery with advantage to their patients and with satisfaction to themselves" (*vide* Preface).

LA GYNÆCOLOGIE. 1897. June, August, October.

This most excellent journal has been replete this year with interesting matter. We have not space in this number to give more than a synopsis of the three numbers before us, but we shall return to a few of the more interesting communications in detail in the next issue. *La Gynæcologie* has as its chief editor Dr. Doleris, and he has associated with him Professor Bouilly of the Hôpital Cochin ; Dr. L. Picque, Dr. R. Pichevin of the Hôpital Necker, and Drs.

Blondel and Isaac as secretaries. Each number contains original articles, and a most valuable analysis of gynæcological literature and recent contributions to various gynæcological societies in France and elsewhere. In the June number, Dr. Simoes commences a review of the entire subject of the treatment of retroversions by Alexander's operation. He enters into a historical summary of the history of the operation, from the time when Alexander first proposed the shortening of the round ligaments to the present day.

Having quoted the opinions of a number of distinguished authorities for and against the operation, Dr. Simoes reviews the pathological anatomy and pathology of the various kinds and degrees of retroversion. He then summarises the different methods of operating, giving a clear and distinct description of the details.

He gives the particulars of twenty-six cases operated upon by various surgeons, drawing the conclusions, *first*, that Alexander's operation should only be practised for retroversion when the uterus is movable; *second*, that this state is more often acquired than congenital, is sometimes acute, but that the most frequent variety met with is the chronic condition; enlargement of the uterus, and relaxation of its suspensory apparatus are the principal causes, while it is often associated with chronic parenchymatous or genital prolapse; *third*, that colpo-perinæorrhaphy, with circular amputation of the cervix, when there is prolapse, and curettage in case of metritis, should always be associated with Alexander's operation; *four*, that the application of a pessary is not an ideal treatment; *five*, that of the various operations proposed to rectify retroversion, the extra-peritoneal shortening of the round ligaments appears to be the most simple and the most rational, inasmuch as when successfully performed there is no tendency on the part of the uterus to depart from its anteverted position, in which it is maintained by the intra-abdominal pressure of the intestines; and *lastly*, that it is the best operation for

married women who are sterile, with a view to future pregnancy and labour.

In the same number the entire question of the best method of closing the abdomen after laparotomy is discussed by Professor La Torre, of Rome. This is a most valuable contribution to an important subject, as it records the causes of failure in securing perfect union, as occurring in the practice of a large number of gynæcologists, as well as the presence of suppuration in the wound and the occurrence of hernia. The various methods adopted by some sixty surgeons are noted.

In the August number there is a short article by Drs. Mangin and Raynaud on subcutaneous injections of artificial serum, both before and after grave operations. Perhaps no more important advance has been made during the last few years in gynæcological surgery than the resort to large saline injections, both in anticipation of collapse and infection, and to counteract shock. In the paper we refer to are five important cases, in which the solution of chloride of sodium (7 in 1,000) was used on repeated occasions after severe shock; in profound anæmia with suppurative appendicitis; suppurative cyst of the ovary, with adhesions; rupture of a pyo-salpinx into the peritoneum; cyst of ovary and pyo-salpinx; salpingo-oöphoritis, with retroversion of the uterus and multiple adhesions, and in all instances successfully. From 200 to 500 grammes of the solution were injected at the time, and these injections were repeated twice in the day in one case; two litres the first and the second day after operation in another, and in one instance the nurse, through error, injected on the same day five litres of saline solution without altering the position of the needles. Here, as a result, there was swelling of the skin, diarrhœa, and pulmonary œdema, but there was no further inconvenience, and the injections were continued from day to day. This was in a case of peritonitis following labour in a woman who had suffered from pyosalpinx, which ruptured during the labour. The patient recovered.

No operating room should now be without its glass litre graduated vessel, with tube and needle for injection, and the sterilised solution should be in readiness. The significance of the value of artificial serum in cases of septic peritonitis cannot be over-estimated, and the paper we here refer to is well worth perusing.

In the October number, Mr. Mangin, of Marseilles, records a case of operation on a large fibro-cystic tumour developed in the broad ligament, weighing 14 kilogrammes in all. The operation lasted one hour and twenty minutes, large saline subcutaneous injections were used, and there was no shock. The patient completely recovered.

In this number, too, there is a lengthy article by Dr. Doleris on eventration following labour, with a description of his method of operating. The remainder of the journal is absorbed by a full Report of the Proceedings in the Section of Obstetrics and Gynæcology at the twelfth International Congress at Moscow.

REPORTS OF SOCIETIES.

TWELFTH INTERNATIONAL MEDICAL CONGRESS, MOSCOW.
SECTION FOR GYNÆCOLOGY, AUGUST 19-26, 1897.

Reported by Dr. FALK to the *Münchener medicinisches Wochenschrift* and the *Centralblatt für Gynækologie*.

AFTER the greeting of the President, Professor Makeiew, and an address from Professor Snéguireth, Olshausen, Gusserow, Martin, Zweifel, Winckel, Pinard, Apostoli and Simpson were elected honorary presidents.

Symphyseotomy, discussed at the last Congress at Rome in the presence of Morisani, its originator, was on this occasion introduced by VARNIER (Paris), who held that when symphyseotomy was carried out in the way recommended at Rome, by Pinard, the mortality of the children was no greater, in spite of the anomaly of the pelvis, than after artificial extraction from normal pelvis. Hæmorrhage and other accidents dangerous to the life or after-health of the parturient woman might be avoided. Most of the deaths after symphyseotomy must be attributed to septic infection from the utero-genital canal. The results achieved by this operation are unparalleled ; it does not interfere with subsequent pregnancy and labour and may be repeatedly performed on the same woman. A child can be easily extracted uninjured if the conjugata vera amounts to 7 cm. Unless the child be alive and the soft parts dilated, the operation is not indicated, but it may be performed even when the pelvis is normal, if the child is too large to be delivered alive in any better way.

It is especially useful when the form of the pelvis is symmetrical, and equally so whether the contraction is in

the inlet or outlet ; it is also indicated in asymmetrical cases if the anomaly be due to inflammation of the hip joint not involving the sacrum, to unilateral congenital dislocation of the femur, or to rachitic deformity ; in the oblique contraction of the pelvis due to insufficient development of the lateral portion of the sacrum ischio-pubiotomy or Cæsarean section have to be considered. Symphyseotomy is not justifiable when the contraction depends, not upon the bony pelvis, but upon tumours arising from the soft parts, nor when the necessity of operation is accompanied by fever ; it is not contra-indicated even though the life of the child has been endangered by previous operation.

ZWEIFEL (Leipsic) followed with the report of 31 cases, resulting in the recovery of all the mothers, and in 29 children born alive, and declared that if symphyseotomy was limited to cases in which the conjugata vera measured at least 6·5-6·7 cm., the objections so commonly made as to the crippling and protracted recovery of the patients would be met ; his patients were nearly all able to get up in the third week and the latter objection could not be very serious. Lacerations of the vagina may be avoided by not extracting the child immediately after the operation, but leaving the course of labour as much as possible to nature.

Open treatment of the wound is essential and also plugging the pockets before and behind the symphysis ; the two sides of the pelvis must be united by a strong suture (silver wire) passing through fascia and cartilage. The operation is very simple to perform, but the hæmorrhage must be perfectly controlled by tampons and not by ligatures. He had seen three accidental injuries of the bladder and urethra, all remedied either spontaneously or by operative treatment. Küstner, La Torre (Rome), Simpson and Dimante took part in the discussion.

COLPOTOMY IN INFLAMMATION OF THE ADNEXA AND IN DISPLACEMENTS AND TUMOURS OF THE UTERUS.

DÜHRSEN, under this title, introduced his operation for opening the peritoneal cavity through the anterior fornix

and drawing down the corpus uteri and adnexa into the vagina, a method by which, in combination with vagino-fixation of the uterus or round ligaments, he has, since 1891, operated on 305 cases of mobile or fixed retroflexion, with only 4 deaths and 12 cases of recurrence. From this material he concludes that when the retroflexion is uncomplicated and the patients are otherwise sound, anterior colpo-cœliotomy may be described as free from danger; in severe pelvic peritonitis hæmorrhage may ensue only to be remedied by proceeding to vaginal hysterectomy.

By the use of silkworm gut, and by placing the stitches at the level of the insertion of the tubes, any recurrences of displacement after vagino-fixation may be prevented, and no interference with subsequent labour will occur if the opening in the vesico-uterine pouch be closed by an independent buried suture. The results of vagino-fixation as a supplement to the operations previously practised for prolapse of the uterus and vagina have also been most excellent.

He has performed anterior colpo-cœliotomy in 300 cases of inflammation of the adnexa and pelvic peritoneum; 8 cases only were fatal, a low mortality that may be still further reduced by certain technical modifications. In 29 cases adhesions of the uterus and ovaries had to be detached; in 53 others he resected or cauterised the ovary on account of cysts; in 103 cases he removed one or both ovaries, leaving any sound portion behind (vaginal salpingo-oöphorectomy); in several cases he performed salpingostomy, and once circumstances obliged him to sterilise the suffering woman by division of the tubes. Among the extirpations of the adnexa were 15 cases of tubal pregnancy, 57 of the removal of large tubal sacs or ovarian cysts; the largest of these, a glandular cystoma 10 lbs. in weight, was removed with a double pyosalpinx, the sound right ovary freed from its adhesions was left behind, and the uterus fixed to the vagina. He had operated several times in cases of pyosalpinx, hydrosalpinx, and ovarian abscess, and invariably

at the same time dealt with any affection of the uterus and vagina that complicated the case.

Finally, he described the operation as eminently well adapted for the removal of myomata of the corpus uteri not larger than the fist (vaginal cœliomyomectomy). All his cases of this kind had done well. The largest tumour, a submucous myoma, weighing 310 grammes, after division of the anterior uterine wall, had to be detached from its insertion on the posterior. From another woman he removed 10 subserous and interstitial myomata, none larger than a hen's egg. On account of its freedom from danger, he thought that this operation should be adopted in all small myomata causing suffering in young people.

The advantages of anterior colpo-cœliotomy are that in the majority of cases it renders central cœliotomy (laparotomy) unnecessary, and that in contradistinction to vaginal extirpation of the uterus and adnexa, it conserves the sound parts of the genital organs, the uterus and at least a portion of an ovary, and thereby, the characteristics of the sex of the patient.

MARTIN (Berlin), co-reporter, after pointing out that the greater part of what we know of chronic pelvic peritonitis has been acquired by operative practice, and that it is generally some affection extending from the genital tract and accompanied by the formation of broad flaky adhesions and callosities which interferes with the mobility and normal functions of the organs, said that it is only in the chronic stage of acute peritonitis or of recent inflammation that there is any hope of relief from general measures (rest, antiphlogistic or resorbent measures, and massage), in many cases operative interference must be resorted to. After reviewing the older methods, extirpation of the ovaries, uterine castration, and vaginal extirpation, the value of which in extreme cases he acknowledged, he declared that anterior colpo-cœliotomy combined with vagino-fixation, was the only reliable means of cure, and supported this assertion by the good results he had himself

secured. Among 496 cases, of which only 60 were free from pelvic peritonitis, and in which the question was one of relieving a mobile retroflexion not otherwise curable, there existed besides peritonitis: in 59, large or small myomata; in 60, tubal sacs (pyosalpinx in 18); in 5, salpingitis nodosa isthmica; and in 5, tubal pregnancy. From 26, very large tubo-ovarian tumours had to be removed; from 25 he took away ovarian cysts; he evacuated 7 large encysted hæmatomata, 44 dropsical, 2 parovarian and 2 intra-ligamentary cysts. By far the greater number of the patients were discharged in a fortnight, and only 31 exhibited any feverish reaction; 8 on their discharge still had some residuary para-uterine exudation. The accidental complications were 5 wounds of the bladder, 2 healed spontaneously, the others closed by operation. Four patients died: 1 on the twenty-first day from pneumonia, 2 from sepsis, 1 from ileus. Among 262 operated on up to the end of 1896, the relapses were 6 per cent.; 27 were materially improved, the remainder were cured (67 per cent). Subsequent pregnancy has happened in 18 cases, labour in 9, and in 2 of these version, with extraction of a living child. Vagino-fixation is better than ventro-fixation, in that it leaves no abdominal scar, and should, therefore, be the method of choice in most cases of chronic pelvic peritonitis.

In the discussion, KÜSTNER attributed the unfavourable prognosis of abdominal operations to imperfect asepsis of the hands, and recommended the use of fine thread gloves. OLSHAUSEN, referred the danger to exposure of the intestines and consequent shock. ZWEIFEL, on the other hand, did not think the exposure of the intestines mattered if they were protected from cold; but perfect arrest from hæmorrhage should be secured, and would materially lessen the dangers of the operation.

PICHEVIN often performs anterior colpotomy, making a crescent-shaped incision for the sake of enlarging the field of view; if both adnexa are diseased he goes on to the

vaginal radical operation. LÉBÉDER advised peat and mud baths as the best treatment for pelvic peritonitis, and the discussion terminated after the reporters had fully explained their different methods of colpo-coeliotomy.

August 21, 1897.

ON METHODS OF EXTERNAL EXAMINATION.

Little new was to be said on the subject as thus stated, but the discussion was valuable as showing that most distinguished men hold that more attention than is yet customary should be paid, and that not by midwives only, to external examination, and that by far the greater number of labours may be conducted without any internal examination.

As LEOPOLD, the first reporter, pointed out, the mere fact that external examination should be proposed for discussion at all, implied a recognition of the endeavours made to ensure more extensive resort to it, not only during pregnancy and the first stage of labour, but also to control the later stages of delivery. It demands the use of sight and hearing as well as touch, and has the advantage of not constituting a source of infection for the parturient woman. It is often difficult for the ordinary practitioner, who is necessarily brought in contact with much contagious disease and infective matter, to avoid communicating infection during an external examination; the rapid disinfection of the hands carried out in most instances, is not sufficient to sterilise them.

In external examination, in conjunction with pelvic measurements, we possess means of ascertaining the progress of the labour throughout its course; but external examination must be carried out systematically, and this can only be done by practising the four well-known positions of the hands (as illustrated in drawings exhibited by Leopold). The *first* (in which the hands are laid transversely across the abdomen, after the finger-tips have been

brought together) tells us the size of the womb and whether the child lies straight or across; the *second* (both hands are drawn from the epigastrium along the sides of the abdomen, and pressed flat lengthwise against the sides of the womb) tells us where the child's back is; the *third* (the thumb of one hand is spread as wide as possible from the conjoined fingers, and the thumb and point of the middle finger lay hold of the presenting part of the child directly above the brim of the pelvis) informs us as to the presenting parts of the child, if they have not descended; and the *fourth* (in which one slowly presses down the tips of the fingers over the soft parts at the side of the pelvis) enables us to recognise the presenting parts even when they have descended. In normal labours internal examination is necessary for educational purposes, but it is quite superfluous in such in practice. In abnormal labour it is only internal examination (combined of course with external) which indicates the opportune moment for necessary interference.

Leopold concluded that : (1) external examination alone is sufficient for the conduct of normal labour; properly carried out, it does not cause harm either by exciting labour pains during pregnancy, or by bruising the lower segment of the uterus during childbirth; (2) to avoid puerperal fever, internal examination should be avoided as much as possible in normal labours, and restricted to what is absolutely necessary in irregular ones.

PINARD, the second reporter (to whom external examination meant only abdominal palpation), after an accurate description of the way to perform *le palper abdominal*, and of the facts it discloses, declared it to be one of the most important methods of obstetric examination, and yielding such good results that it should be applied in every case of pregnancy. It is the best means of ascertaining whether the pregnancy is normal or abnormal; whether it is extra-uterine; or whether there are twins. It is easy to learn, practise or teach; methodically used it enables one to detect

triplets, or hydrocephalus. Of excellent service during pregnancy, when labour has commenced it is not so important as internal examination, for though in some cases it gives important information as to the progress made, it does not do so in all. In the expulsive stage, however, it becomes again as valuable as internal examination. It should always be employed when internal examination is not demanded by any pathological condition.

HENNIG (Leipsic), the third reporter, was not present, but had sent a very learned and exhaustive paper in which, after historical matter, he insisted on the necessity of commencing the investigation of every case of pregnancy with an external examination, as thereby internal examination could often be omitted, and infection altogether avoided. Nevertheless, the internal method of examination, practised from remote antiquity, has but recently been supplemented by the external method, and this perhaps principally because the conditions most important as regards the course of labour, are more easily ascertained from the vagina than from the abdominal surface. External examination includes information from all five senses.

(1) By smell we may obtain the specific odour of blood pus or intestinal gases, or important pathological symptoms (putrid physometra, recto-vaginal fistula, &c.).

(2) By taste, the condition of the milk secretion is learnt.

(3) Hearing. The estimation of the foetal heart sound is most important; this sound and the umbilical souffle are each certain symptoms of pregnancy; foetal heart sounds of different frequency heard simultaneously by different observers, are a certain sign of twins, more reliable than if the heart sounds can be distinctly heard at two separate spots and are inaudible between these spots. The heart sounds of the child must not be mistaken for those of the mother. The souffle of the uterine arteries, generally to be heard in the third month, is by no means as reliable a sign of pregnancy as the sounds of the foetal heart, as

it may be caused by tumour or aneurism. Finally, the character of the cry elicited by the labour pains is to be listened to.

(4) Sight. The woman should not be more exposed than is absolutely necessary for our inspection for the purpose of prognosis or treatment. Thorough inspection of the bones and mode of progression is necessary when there is any suspicion of rachitis or of osteomalacia.

The inspection of the pelvis (oblique contraction, spondylolisthesis) and of the rhombic figure caused by the origin of the muscles on the sacrum, is most important. We note also alterations of the skin as to possible, and of the patient's face as to actual, hæmorrhage; and further, the contour and size of the belly, the position of the fundus uteri and that of the contraction ring. The placenta must be inspected after it is expelled.

(5) Touch and feeling. Noting the heat of the skin, and the condition of the pulse, which will betray impending danger from hæmorrhage, we then ascertain the height, the length, possibly the unequal length, of the femora, and the feel of the skin, crepitation of which may indicate physometra or rupture of the uterus. The pelvis is then to be examined, so as to form an opinion of its size, if we have no instruments, by thorough palpation of the pelvic bones, otherwise by determining the circumference of the small pelvis with a tape-measure, and the distances between the anterior superior spines, the iliac crests, the trochanters, and the length of Baudelogne's diameter with the pelvimeter compass.

Palpation will then teach us whether there is actual pregnancy, hydramnios, or plural foetus; whether the uterus is properly formed, whether there is an extra-uterine pregnancy (which may co-exist with an intra-uterine) or an abdominal tumour of some other kind. The presence of free fluid in the abdomen, fluctuation or undulation may have to be considered, and when pregnancy is ascertained the size of the foetus may be estimated. One can seldom

detect the placenta and cord through the abdominal wall, but in impending rupture of the womb may feel the obliquely arrested ovisac and the ascending contraction ring.

KÜSTNER, LA TORRE, v. OTT, and MURDOCH CAMERON took part in the discussion.

August 21, 1897.

Advocating a wider field for CÆSAREAN SECTION, OLSHAUSEN declared that the class of cases in which the operation was taken to be indicated, in the interests of the child, had of late years been much enlarged, and very properly so. The danger of the operation for the woman has been materially decreased, and its prognosis under relative indications has therefore become much more favourable than that of waiting for the natural termination of the labour, or delivering artificially in some other way.

The time of election is some hours after labour has begun, but, when the woman is in peril, the operation should be done even during pregnancy. If the seat of the placenta be determined beforehand any injury to it during the operation may be more readily avoided. Otherwise Olshausen makes his incision in the fundus and extends it backwards or forwards according to the seat of the placenta. No attempt should be made to remove the decidua, and the child and after-birth having been removed, the inner surface of the womb should not be interfered with. For the sake of the child's life Olshausen has of late years abstained from the application of an elastic tube round the cervix which, after the extraction of the child, is compressed by the assistant.

As in nearly all gynæcological operations Olshausen uses catgut sutures; in five cases of repeated Cæsarean section the womb had healed most perfectly under this suture, from the use of which he has never seen any harm result. Since 1888 he has performed the operation 30 times, 29 times on 24 women on account of con-

tracted pelvis, 2 of the women died, all the children were born, and 24 discharged from the clinic alive. The women who underwent the operation, though generally very small, very frequently had very large children, the average weight of those of 20 rachitic mothers was 3316 grms. Convalescence was seldom free from fever. In 4 women only did the temperature remain below 38° C. The pulse also is much accelerated; a frequency maintained above 120 is not at all rare. This frequency may be explained by adhesive peritonitis, which the adhesions found in the cases in which the operation was repeated prove to take place. The general condition of the women during recovery was, however, always satisfactory, and from his own experience Olshausen concludes :—

The decreased danger of the operation for Cæsarean section has expanded the field for its employment in the interests of both mother and child, and should lead to its performance whenever life is in immediate danger (eclampsia, &c.) and there is no safer way of delivering the woman. The operation is an easy one and its technical details have acquired an established certainty not yet obtained for symphyseotomy.

CÆSAREAN SECTION.

In the discussion LEOPOLD, who has performed 93 Cæsarean sections in the last fourteen years (67 conservative and 28 Porro operations), declared that for the practising obstetrician he thought the induction of premature labour was a more suitable proceeding, as he did not consider Cæsarean section a very simple operation; he lost 8 women (8·6 per cent.). ZWEIFEL took the same view; though he had in ten years done 55 Cæsarean sections with only 1 death, he considered the operation more dangerous than symphyseotomy. v. OTT advocated operating as early as possible, without waiting for labour pains, and also without any preventive measures against hæmorrhage.

Afternoon Sitting, August 21, 1897.

After a short report from LEOPOLD, supplementing a previous one to the Leipsic Gynæcological Congress of this year, upon the formation of the intervillous spaces in the placenta, LA TORRE (Rome) brought forward a new anatomo-pathological (morphological) classification of the anomalies of the pelvis as follows :—

TRANSVERSAL OVAL PELVES (the straight [conjugate] diameter shortened) found with deficient development or rachitic changes of the pelvic bones, with double dislocations of the hip.

OBLIQUELY OVAL PELVES (one of the oblique diameters shortened), with deficient development of the sacro-iliac symphysis of one side, with injury to one of the extremities, or with scoliosis.

STRAIGHT OVAL PELVES (the transverse diameter shortened), associated with deficient development of the whole pelvis or of both sacro-iliac joints ; with kyphosis and spondylolisthesis.

TRIANGULAR PELVES (three-cornered pelves, several diameters shortened), in extreme rachitic changes, and in osteomalacia.

ATYPICAL PELVES (several diameters shortened), in simple or complicated injuries of the vertebral column, scolio-rachitic or kypho-rachitic changes, suppuration or fracture of the vertebræ or of the pelvis itself ; in ununited symphysis.

PERITONITIS : ITS SURGICAL TREATMENT.

v. WINCKEL, the first speaker, pleaded for a wider use of surgery in the treatment of general peritonitis originating from the female sexual organs. Such peritonitis may be tubercular, gonorrhœal, post-operative, or puerperal, or may depend on the rupture of sexual organs (ovarian abscess, &c.), putrefaction of hæmatomata, or hydatids, or upon the torsion or gangrene of myomatous or ovarian tumours.

The operative treatment of tuberculous peritonitis, and of that after perforation has long been recognised; puerperal cases are those on which opinions are most opposed. He concluded as follows :—

(1) *Tuberculous Peritonitis*.—Cases are too often published as cured which have only been under observance half a year (he had seen the re-development of tuberculosis five years after operation). Moreover, many cases operated on are quite improperly described tuberculous. For tuberculous peritonitis the incision possible from the vagina is far too small, an incision 10 to 20 cm. long through the rectus abdominis is required.

(2) *Gonorrhœal Peritonitis*, the occurrence of which v. Winckel considers established, causes no extensive exudation nor any very perilous symptoms, and as a rule does not require any operative treatment, but vaginal cœliotomy may be indicated by small, abdominal cœliotomy, by larger encysted pyosalpinx, or if perforation cause peritonitis in a gonorrhœal case.

(3) *Post-operative Peritonitis* indicates the partial re-opening of the original wound, and the careful evacuation of the pus, drainage, but no washing out. A patient with prolapse and retroflexion was submitted to anterior colpotomy. While v. Winckel was detaching the uterus from behind, some stinking pus poured out, containing an encysted ascaris lumbricoides; her temperature rose next day, and on the following one there was an explosion of peritonitis. It appeared from the autopsy that the intestine had been perforated, probably in detaching the uterus. In this case abdominal laparotomy was indicated, so that the maxim that the original wound should be re-opened is not without exception.

(4) *Puerperal Diffuse Peritonitis*.—As far as the present limited experience shows, these cases should be operated on as soon as the purulent exudation is considerable, and while pleura and pericardium are still unaffected. An extensive incision should be made through the abdominal wall—

drainage is indispensable. Most operators wash out the abdomen; but this question is not yet settled, nor the details of the procedure—nor as to eventration of the intestines, nor as to whether the abdominal wound should be closed.

(5) In case of *perforation*, operation (C. abdominalis) is indispensable for cure; the ruptured or putrefied organ must be removed.

CRISTOVICH. — Acute purulent peritonitis should be operated on as soon as possible; the nature of the peritonitis should be established by exploratory puncture. Pichevin and v. Ott took part in the discussion.

N. MIHAJLOWITS reported the cures he had obtained in gonorrhœal affections of the vagina and endometrium by nitrate of silver, in solutions of 1-3000 at first, 1-2000 later, and after protracted use, of 1-1000. In endometritis he uses a caoutchouc sound fashioned like Bandl's; this is introduced empty into the uterus; the solution of silver is then poured into a speculum in the vagina, and finds its way into the cavity of the uterus; after the withdrawal of the sound the vagina is most carefully washed. In 140 cases so treated the cure was ascertained microscopically.

MARSI (Bologna) described a new method of curing cystocele, a condition which he thought should be operated on as soon as possible, as prolapse of the anterior vaginal wall is generally followed very rapidly by prolapse of the uterus. He detaches two flaps from the vaginal wall, which he unites at their bases as well as at their free edges, without any loss of tissue, but rather with the formation of a new *Columna rugarum* which supports the bladder (*figs. in Cbt.*)

Secondly, he described a case of vicarious menstruation in a young person who had undergone a radical vaginal extirpation for bilateral adnexal disease, in August, 1896. For four months, at the time that menstruation had previously taken place, bleeding occurred from the bladder. Microscopical examination of the urine showed numerous red and white corpuscles, bladder epithelium, especially

from the superficial layers, but no cylinders or other elements from the kidney. At other times the urine is quite normal. No inconvenience.

BOURSIER reported two multilocular muco-dermoid cysts of the ovary seen by him and Monod, and successfully operated on.

NITOT recommended the abortive treatment of endometritis, before complication by metritis or salpingitis, by a saturated watery solution of bromine, which is very antiseptic—the vapour penetrates deep into the mucosa, and acts there.

Monday, August 23, 1897.

SEROTHERAPY OF PUERPERAL INFECTION has not been accepted in Germany, and no German gynæcologist took any part in the discussion upon it. Nor were the reports of Wallich and La Torre by any means as encouraging as the earlier French accounts. LA TORRE declared that serotherapy required further study, and that for the present the cases should be otherwise treated. In Wallich's unavoidable absence PINARD reported for him that though he had been led by the experimental success which Marmorek had had with his serum in streptococcic infection, to try its prophylactic and curative effect in puerperal cases, he had not found, in spite of the methodical employment of the serum—although as much as 750 cm. had been used in a single case—that the rate of disease or that of death had been improved. Pinard declared that during 1897 he had himself had better results from the serum than in previous years. WEINSTEIN (Odessa) had experimented with the serum on cats, infected by injecting streptococci into the womb after kitting, and found that large doses administered early were necessary, and that the prophylactic effect was greater than the curative.

PHOTOGRAPHY AND MEASUREMENTS OF THE PELVIS.

VARNIER reported that at all events in non-pregnant women it was possible to obtain—by means of X-rays—as

good an idea of the pelvis and its relation to the femora and spinal column, as if the bony pelvis were itself exposed to view. The direct inspection of the image on the screen was not satisfactory, and the picture on the sensitive plate lost much clearness in printing. The best way was to inspect the plate itself in the dark chamber. He exhibited a series of most excellent diagrams obtained by Pinard and himself.

It is, moreover, possible, not only to ascertain in the living woman, by means of the X-rays, the dimensions of the pelvic inlet, indirectly by comparison with photographs of pelves of known size, but also certain measurements, such as the width of the os sacrum, the distance of the lumbo-sacral spinal crest from the posterior superior spine of the ilium, the distance from the centre of the promontory to the sacro-iliac symphysis, &c., of the greatest importance in estimating asymmetry, and which are otherwise hard to make out on the living woman, may be determined directly. The transverse diameter of the outlet is given by radiography in the sitting posture.

W. FAVR showed a perforator, fashioned after the American drill pattern, which he recommended as less likely to slip than the scissors, and as more easily sterilised than the trepan.

A. J. CARBAJAL insisted on the necessity of the manual rectification of posterior parietal presentations, and from theoretical considerations and his own experience showed that to prevent the exit of the head in the wrong position this correction may be made by rotating it either before, or if the membranes be unbroken, during the descent.

August 23. Afternoon.

A COMPARISON OF THE METHODS OF OPERATIVE TREATMENT OF CANCER OF THE WOMB, AND OF THEIR EFFICIENCY IN DIMINISHING RECURRENCE.

GOUBAREFF, the reporter, insisted on the necessity in any radical operation of removing the lymphatics involved by the new growth ; in cancer of the womb, therefore, we

must endeavour to take away the lymphatic glands and all the tissue at the base of the broad ligaments as completely as we should clear out the axillary glands in mammary carcinoma. This condition cannot be satisfied by vaginal extirpation except in the case of cancer of the corpus uteri, in the later stages of which only are the lymphatics of the upper part of the broad ligament as a rule involved. In other cases, on the contrary, there is often an implication of the glands and an extension of the malignant disease along the lymphatic vessels quite inappreciable to the touch. By abdominal cœliotomy, as Goubareff convinced himself in three cases, one can completely remove the base of the broad ligament, and as vaginal extirpation does not fulfil the conditions of a radical procedure, or offer for the cure of uterine cancer what the usual radical operation does in cancer of the mamma, abdominal cœliotomy appears to him to be the operation of the future.

Küstner, v. Ott, Olshausen, Falk, Rein and Dührssen took part in the discussion. OLSHAUSEN noted the difference of the views taken by different operators on the limits of the indications for undertaking operations at all, a point upon which the question of the best method of operating must of course depend. If one is never to operate when the disease has extended beyond the womb, and it is common for there to be large knots in the upper part of the ligament though no glands can, from the vagina, be felt at its base, then no doubt the vaginal operation is the best. But if more advanced cases are as a matter of course to be operated upon, cœliotomy offers more chance of permanent cure. The other speakers concurred, Küstner declaring that Freund's operation, although it opens the way to the parametrium, is for the present too dangerous to exclude the vaginal method. Of 18 cases he had lost 4, but the results had improved since he closed the vagina, leaving a Miculicz' tampon in the abdominal wound. He insisted on the necessity of burning away every particle of diseased tissue, a view shared by most operators since Winter's

publication. v. Ott had seen most favourable results from vaginal extirpation, cases remaining cured twelve, eleven, ten, and several for from six to eight years. Like Olshausen he used cat-gut ligatures, Küstner prefers silk, Falk employs forceps.

THE OPERATIVE TREATMENT OF UTERINE FIBRO-MYOMATA.

A. CLARKE (Cambridge, Mass.), after reviewing the numerous methods of operation, especially recommended salpingo-oöphorectomy for cases in which perilous hæmorrhage or the rapid growth of a sub-peritoneal fibroma demanded interference. In many instances, especially of intramural tumours, ligature of the uterine arteries will relieve hæmorrhage and other troubles. Interstitial growths, especially when they tend towards the surface, demand curettement, best performed after menstruation. Sub-mucous growths may often be enucleated from the uterine cavity, sub-peritoneal generally after abdominal cœliotomy, it is only when growing in the lower part of the womb that they can be shelled out from the vagina. If the base is too broad for enucleation, supra-vaginal hysterectomy or the combined abdomino-vaginal method is suggested.

The danger caused to pregnant women by myomata, Clarke considers great. The general condition is rapidly deteriorated by the rapid growth of the tumour. Auto-infection and a long series of local and general symptoms appear sooner or later. Pedicled subserous tumours growing from the lower segment of the uterus may undergo retrograde changes or calcify, but may cause serious disturbance by pressing on the ureters or kidneys, and myomata if not removed by operation may, and according to Clarke not infrequently do, undergo malignant changes.

v. OTT advocated vaginal total extirpation; SNÉGUIREFF a modified Doyen operation; LA TORRE in clear and eloquent words denounced the rage for operation which is, especially in regard to these tumours, so very prevalent; no myoma should be operated on unless it caused trouble, but DÜHRSEN thought that the indications for the operative

treatment of myomata should be expanded, and in particular that small myomata should be removed by anterior colpo-cœlio-myomectomy, referring to a statement of Olshausen's that it was just these small myomata that caused most trouble. OLSHAUSEN, who took La Torre's view, explained: the smallest myomata do cause trouble until they are distinct, that is to say, before an operation is possible, as no definite diagnosis can be made. Many women who ask advice for myomata have no trouble at all, it often happens that they have accidentally learnt, and naturally with anxiety, that they have a tumour; in others the trouble is quite moderate, and in a minority only is it sufficient to justify an operation.

Tuesday, August 24.

VAPORISATION.—SNÉGUIREFF recommended the action of steam at a temperature of about 100° upon the inner surface of the uterus, as a means of arresting uterine hæmorrhage when adnexal disease can be excluded. A short application ($\frac{1}{2}$ —1 minute) which is seldom very painful, generally stops the bleeding at once without interrupting the functional activity of the womb (menstruation and pregnancy). Stinking discharge is diminished and deodorised. By prolonged application, *e.g.*, in incontrollable post-climacteric hæmorrhage, the mucosa may be destroyed.

Hot steam is also valuable in arresting hæmorrhage in major operations, and does not interfere with healing by first intention. Snéguireff had proved this by experiments (section of the femoral artery, injury of the cerebral sinus, injury of the kidneys, &c.), and subsequently performed such major operations as resection of the knee joint under the help of vaporisation. GOUBAREFF gave a demonstration of the method of applying the steam, which is not difficult, and has already been described in the *Therapeutischen Monatsheft*. (Nevertheless this treatment seems for the present better adapted for clinical use.—*Falk*).

August 24.

SECONDARY LAPAROTOMY.

NOLTSCHINI, on the ground of 15 secondary laparotomies out of a total of 654 performed in the Moscow gynæcological clinic during the years 1890-1896, drew the following conclusions :—

(1) The principal complications which necessitate a secondary laparotomy, *i.e.*, a re-opening of the abdominal cavity after an antecedent operation, are, ileus, internal secondary hæmorrhage, occlusion of the ureters and diffuse peritonitis. (2) While the etiology of the three latter conditions is sufficiently evident, we have as yet no scientific basis for the explanation of the formation of the adhesions which are the origin of ileus. (3) The substitution of asepsis for antisepsis has not lessened the number of cases of ileus. (4) Ligature of a ureter or symptoms of internal hæmorrhage are indications for re-opening the abdomen. (5) In general peritonitis no definite indications for operative interference can be laid down. (6) In ileus, on the contrary, secondary laparotomy is clearly indicated ; its mortality is 38·5 per cent. (7) Neither the time of onset of the first symptom of occlusion of the intestine, nor the interval between the occlusion and the surgical interference, affects the result. (8) The decision as to surgical interference must rather depend on the general condition of the patient. Debility, collapse, and intestinal paralysis must be accepted as contra-indicating operation. (9) With improved technic and ensured asepsis, the number of cases of peritonitis, of slipped ligatures causing internal hæmorrhage, and of compressed ureters, diminishes, but there are just as many cases of ileus ; it is therefore most important to avoid any circumstances that may possibly lead to intestinal occlusion. (10) Prophylaxis in two directions is necessary ; before operation, as Fritsch suggested, the excessive use of purgatives, which weaken the muscular tissue of the bowel, should be avoided, and during the operation the peritoneum

should be interfered with as little as possible and protected from mechanical or chemical injury.

COLPOTOMY AND PAN-HYSTERECTOMY.

DOYEN disagrees with those operators who recommend colpotomy as the only proper method of removing ovarian cysts. One may remove by the vagina without any great difficulty cysts containing large quantities of fluid if unilocular and free from adhesions, but when the cyst is extensively adherent the vaginal operation is a failure. To adopt the anterior incision in all cases is still more dangerous.

Doyen, when the vaginal method is admissible, makes his incision in the posterior fornix; this affords satisfactory drainage and, with combined abdominal palpation, allows an investigation of the condition of the posterior face of the womb, and of the adnexæ when they are low enough; when the vagina is sufficiently wide, the diseased adnexæ, in corpulent women especially, frequently become more accessible than by a laparotomy. For a unilateral operation Doyen therefore recommends as the operation of choice posterior colpotomy rather than ventral cœliotomy. It is an additional advantage that if during the operation the disease be found to be bilateral, it is easy to proceed to the vaginal radical operation, a far more efficient procedure than mere removal of both adnexæ.

One may operate on abscesses of the broad ligament, or solid tumours not exceeding the size of a child's head, in this way, but it is in cases of small adnexal tumours lying in Douglas' pouch and necessitating unilateral extirpation that posterior colpotomy is most valuable. In arresting hæmorrhage Doyen uses either suture or pressure forceps, an advantage of the latter being that they fix the stump near the vaginal vault and so prevent infectious matter from being discharged into the peritoneal cavity. The use of forceps should, nevertheless, be confined to cases in which the introduction of the sutures is difficult, remembering always that a forceps in good position is better than a

badly placed ligature. Posterior colpotomy is unsuitable for tumours developing upwards and reaching up to the umbilicus or even beyond the iliac fossæ, and for the larger ovarian cysts, adhesions of which can never be excluded with certainty.

Vaginal total extirpation for prolapse, for malignant disease of the uterus, for bilateral adnexal disease, for pelvic suppuration and for many myomata, is performed by Doyen without any preventive control of hæmorrhage, the arrest of which is secured generally by spring forceps, one strong pair of which, with a weaker pair in front of them for security, is applied to each broad ligament; when and only when the ligament is very extensible, as in case of a prolapsed uterus, and the ligature can be applied with safety, he uses the latter, and in that case generally closes the abdomen; with forceps it must of course be left open. The extirpation of the uterus is facilitated by median bisection; if the organ be very large from the development of myomata, he is able by thoughtfully conceived methods to remove it piecemeal from the vagina.

For very large myomata, for malignant uterine tumours, and for adnexal disease which cannot be removed *per vaginam* and in which removal of the uterus itself is also necessary, Doyen prefers abdominal extirpation also without preventive control of hæmorrhage, the uterus *for room* being shelled out of its connection with the bladder and rectum, and the peritoneum of the anterior uterine surface preserved to form a ruffle by means of which, the stump having been brought outside the cavity, he closes the abdomen. It is only after protracted operations with great injury to the floor of the pelvis, that he inserts a glass drainage tube into the vagina. In the discussion he gave the following mortalities: vaginal hysterectomy for cancer 7·8 per cent., for fibro-myomata 4·6 per cent., for bilateral adnexal diseases 2·37 per cent., for abdominal hysterectomy less than 5 per cent.

• DÜHRSEN anticipated firmer adhesions after posterior

than after anterior colpotomy. MARTIN declared that his experience showed that the anterior operation was to be preferred. For large myomata he would rather do a ventral cœliotomy than a vaginal operation, but one should be prepared to operate early and guard against any routine plans. Where there are extensive adhesions or parametritic exudations it is impossible to operate without preventive control of hæmorrhage. His death rate, whether for vaginal or abdominal operation, had been very low.

ON THE CONSISTENCE AND ELASTIC CONDITIONS OF THE UTERUS DURING PREGNANCY, LABOUR, AND CHILDBED.

SONNTAG pointed out that the softening of the uterine walls during pregnancy affected the body and not the neck of the organ ; if the uterine walls be pressed together or against a solid body, *e.g.*, the symphysis, they give one the idea of œdematous tissue, the ovum itself is very elastic under palpation, and one may bring the finger-tips almost directly against each other above the inner os (Hegar's sign), while the cervix on the contrary feels like a firm roll ; not only the lower segment but the whole corpus exhibits this compressibility, one may form a fold in the anterior wall while the compressibility at the insertion of the tubes is most characteristic (Landau). This sign is reliable in the early stages of pregnancy. During the latter portion of gestation a considerable softening advancing downwards affects the cervix and is a sign of the approach of labour ; and the questions whether the ovum is still confined to the corpus uteri or has descended into the cervix, whether the waters have been discharged, &c., are easily decided by palpation. Even in childbed the corpus uteri remains very compressible, the cervix remains so for two or three weeks.

DRAINAGE OF THE UTERUS WITH CATGUT.

SCHMELTZ, Nizza, recommended a wick formed of sterilised silkworm gut mixed with catgut as a harmless means

of draining the uterus, sometimes rendering operation unnecessary; the cervix if need be is dilated with laminaria. He employs this drain in puerperal metritis and endometritis after curetting the uterus and cauterising with fuming nitric acid; in chronic catarrhal and purulent salpingitis, promoting the absorption of the adnexal tumours or parametritic exudations by massage; in amenorrhœa, dysmenorrhœa and stenosis colli, and finds its application for several weeks beneficial in anteflexion and retroflexion. He very properly considers it contra-indicated by any acute inflammatory process. Any intra-uterine treatment, especially if, as Schmeltz desires, it is to be undertaken in the presence of parametritis and inflammatory adnexal tumours, may be dangerous by rekindling inflammation; we cannot tell that the contents of the tube may not be still infectious, nor whether a condition apparently chronic and free from fever may not become acute and, by extension to the peritoneum, imperil the patient's life.

THE ETIOLOGY AND PATHOGENESIS OF CARCINOMA.

SCHMELTZ also reported that he had found in cancerous tissue from many different organs protozoa identical with those described by Foa at the last congress at Rome.

THE POSITION OF THE EMBRYO IN RELATION TO THE UTERUS AND PLACENTA.

MURDOCH CAMERON, from his experience in Cæsarean sections, concludes that the position of the embryo is determined by the seat of the placenta. For example, if the placenta is situated on the right side of the posterior wall the back of the fœtus lies forward to the left, and the womb can contract on to the back of the child without causing any disturbance in the placental circulation. Transverse positions probably arise in a similar way, the fœtus falling into the longest diameter of the uterus, of which latter the regular shape has been altered by the situation of the placenta.

ELECTRICITY IN GYNÆCOLOGY.

APOSTOLI since 1896 has made 1170 applications of the wave current in 108 women, and ascertained it to be harmless and free from pain. Without effect on uterine new growths it is a powerful means of promoting resorption of perimetritic exudation, and especially of rapidly relieving inter-menstrual and dysmenorrhœal pain.

Afternoon, August 24.

CÆLIO-HYSTERO-SALPINGO-OÖPHORECTOMY.

JONNESCO, Bucaresth, considers complete abdominal castration to be the operation of choice in all severe septic affections of the genital organs. (1) Diagnostic errors as to both sides being affected are excluded; (2) It is an easy operation entirely within view; (3) It allows of the entire removal of the diseased organs and so affords the best results, permanent as well as immediate; (4) Compared with vaginal total extirpation, secondary hæmorrhage and injuries of bladder, ureter, and intestine do not occur; (5) Under asepsis it is as free from danger as the vaginal method. He has operated on 14 cases, 12 for bilateral purulent and 2 for tuberculous affections of the adnexa; 2 patients died.

For RETRO-DEVIATIONS OF THE WOMB, he recommended a complicated operation; opening the abdomen, excision of a wedge from the anterior uterine wall, shortening the round and gathering the broad ligaments into folds, he had found successful in 4 cases, some complicated.

ABDOMINAL SUTURES.

RATCHINSKY, St. Petersburg, reported, as the result of his method of isolated suture of the fascia, deep stitches through the entire abdominal wall, and superficial suture of the skin, that of 300 women 97 reported on from seven months to five years after operation, only 3 had abdominal hernia.

UNCONTROLLABLE VOMITING OF PREGNANCY.

GEOFFROY, Paris, from continued observation of the alimentary canal, believes the vomiting to be due to reflex

contractions of the pylorus, duodenum, and especially of the transition of the ileum into the colon. He has found prolonged palpation over the latter spot relieve it.

MME. ANTUCHEWITSCH was led by the resemblance of the symptoms of pregnant vomiting to those of animals deprived of sufficient alkaline salts (K and Na), to prescribe, and always with good results, large doses of hypophosphate of lime, glauber salts, and bromides.

HYDATID MOLES.

DURANTE, in regard to the importance lately drawn to these degenerations of the ovum in connection with deciduoma malignum, declared that microscopical examination enables one to form an opinion upon their malignancy, and as to whether a dissemination of the foetal elements in the maternal system is probable.

BREECH PRESENTATIONS.

TSAKIRIS, Paris, exhibited a form of forceps by means of which it is easy to place a noose round the hips. The branches of the forceps are hollow and are separately applied, and the noose is then drawn through by an elastic leader, or for embryotomy a chain saw may be applied in the same way; the branches are then carefully withdrawn one after the other.

ON PERFORATING RUPTURES OF THE VAGINA DURING LABOUR.

EVERKE, who has previously published three cases of this accident, described a fourth, a case of contracted pelvis, in which forceps had been applied by a colleague, and he had himself tried to perforate without success. Further examination disclosed that the child was partly in the abdominal cavity, and it was turned and extracted. The woman collapsed so suddenly that there was only time to plug the vagina. The autopsy showed the uterus to be uninjured, but there was a rupture of the vagina and bladder. In similar cases he recommended immediate

extraction of the child through the vagina if possible, otherwise after laparotomy. Exact suture of the laceration is indispensable.

EXTRA-UTERINE PREGNANCY AND ITS CONSEQUENCES. ELECTRICITY.

NÉDOROFF advanced the opinion that up to the middle of the fourth month extra-uterine pregnancy should be treated by the electric current. Hæmatocele should, even if of old date, be treated in the same way, certainly up to three months. Other cases require surgical interference.

SECONDARY PLASTIC OPERATIONS ON THE PERINÆUM.

CHOLMOGOROFF declared that even when a laceration has not been sutured within a few hours of delivery, it is not necessary to wait till after childbirth to insert the stitches, and that if when stitches inserted immediately after rupture are removed it be found that no union has taken place, new ones should be inserted without waiting for cicatrisation (no other contra-indication existing); it is, however, necessary to remove granulating tissue with a sharp spoon, in doing which there is no danger. Lacerations sutured within two to twenty days make an excellent union under certain precautions.

INFECTIOUS DISEASES DURING PREGNANCY.

JACUB maintained that gestation does not protect the woman from any infectious disease, and the danger to the child is very great, greatest in cases of recurrence. The higher the temperature the greater the danger, but the death of the child does not depend merely upon the degree of pyrexia—the disease may pass directly from the mother to the child; active refrigerant treatment must be adopted. In typhus fevers interruption generally occurs in the second week. The prognosis is no worse for the woman than if she were not pregnant. Infection may happen at any time of pregnancy.

Prof. v. WINCKEL having thanked the Russian colleagues, and MAKEJEFF and SNÉGUIREFF the visitors, the section was closed.

J. J. MACAN.

THE MONTREAL MEETING OF THE BRITISH MEDICAL
ASSOCIATION, SEPT. 1-3, 1897.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

Full reports of this meeting, dealing both with its social and with its scientific aspects, have been appearing in the Journal of the Association ; but for our readers it may be of interest to present here a summary of the proceedings in the section with which we are more especially concerned.

First Day.

The Section was opened by Dr. William Gardner, of Montreal, who introduced the President, Dr. W. Japp Sinclair, of Manchester.

Dr. HENROTIN (of Chicago) read a paper on "The Operation of Choice in the Surgical Treatment of Septic Pelvic Diseases, with special reference to the early vaginal incision." The discussion on this paper was postponed till Thursday.

Dr. J. ALGERNON TEMPLE (of Toronto) opened a discussion on "Hyperemesis Gravidarum." He said he would confine himself to the question of ætiology, leaving the diagnosis and treatment of it to subsequent speakers. In looking over the literature he had found very little that was definite ; almost every writer who reported a fatal case advanced his own views as to the possible cause of it ; but it was only in those fatal cases where a *post-mortem* had been made that statements of any value were found ; the rest was merely speculative. Primigravidæ were the principal sufferers ; and it was much more fatal than some writers would lead them to believe. The ordinary morning sickness of pregnancy he regarded as physiological, and not dependent on any pathological condition ; but

in the pernicious form it was invariably accompanied by some pathological condition.

The majority of theories ascribed the pathogenesis to reflex phenomena originating in conditions present in connection with the pregnant uterus; but the way in which uterine conditions gave origin to peripheral irritation had been variously explained. Graily Hewitt laid great stress on flexions and versions in the growing uterus. J. H. Bennett emphasised the importance of inflammatory conditions of the cervix. Howitz drew attention to the frequency of metritis and cellulitis in these cases. J. Veit, in three cases where he had to terminate pregnancy, found inflammatory conditions of the decidua vera and serotina. Ebell held the same view and regarded the relation as proven. Bretonneau suggested that the peripheral irritation originated in the stretching of the fibres of the growing uterus, and the pressure on the nerves occasioned thereby. Copeman and Gill Wylie also adopted this explanation, whilst E. H. Grandin suggested ovarian irritation as a cause. Others explained it as due to a nervous temperament and hysteria; or to disease of the intestinal tract. Haden's toxic theory had many adherents, and Tumas had recently located a vomiting centre in the medulla, in close relation to the centre which presides over the generative organs. They were all aware that pregnancy was accompanied by changes in almost every tissue of the body, as well as a hydræmic condition of the blood and a generally exalted excitability of the nervous system, and his own experience led him to a similar conclusion.

Dr. ARTHUR GILES (of London, England) said that some years ago it occurred to him that some light on the subject of hyperemesis gravidarum might be derived from the examination of the causes of the ordinary vomiting of pregnancy. For this purpose he analysed the records of 300 cases in the General Lying-in Hospital in London, the results being recorded in the *Obstetrical Transactions* for 1893. He found that in 33 per cent. of the cases there was

no vomiting at all during pregnancy, consequently he could not regard the ordinary vomiting of pregnancy as physiological. Further, in 50 per cent. there was no vomiting during the first three months. Vomiting during the later months was frequently associated with hydramnion, twins, or an unusually large child. Among primiparæ especially there was a close relation between sickness of pregnancy and previous dysmenorrhœa. He concluded that vomiting must be regarded as due to a combination of three factors, viz. :—(1) The exalted nervous tension characteristic of pregnancy. (2) The presence of a source of peripheral irritation, viz., the enlarging uterus. (3) An easy channel of outlet for this exalted tension, viz., the vagus. By the exaggeration of one or more of these factors, hyperemesis might be produced. He divided cases of hyperemesis into two distinct classes : (a) Cases associated with organic disease, in which the pregnancy was an accidental complication. (b) Cases in which there was no organic disease. He could not agree with Horrocks' view that a *post-mortem* was necessary in order to establish a case of hyperemesis gravidarum ; for it was found that patients might be rapidly going down hill, whilst on terminating the pregnancy the patient recovered and showed no further sign of disease. In the worst cases he regarded the induction of labour as the only possible treatment. Sometimes it was found that if dilatation of the cervix were employed for this end, the vomiting ceased while the pregnancy went on to term.

Dr. WILLIAM GARDNER (Montreal) did not believe there was evidence to support Horrocks' view that unless an autopsy was made the case could not be regarded as one of hyperemesis. Young women in perfect health conceived and soon presented symptoms which rapidly became serious. As soon as the uterus was emptied the patients completely recovered. In other cases speedy recovery took place as the result of minor local treatment or medication. He had seen dilatation of the cervix act in this way.

Dr. R. B. MAURY (of Memphis), in a number of cases

which he had unfortunately seen, had failed, after careful examination, to find any pathological condition in the pelvis to explain the vomiting ; there were neither flexions nor displacements, nor was dysmenorrhœa a feature in the history. He had tried various local measures and general sedatives, but without success. He regarded the pulse as affording the most important indication for interference.

Dr. A. J. C. SKENE (of Brooklyn) considered that while vomiting in pregnancy remained physiological it was not serious. But severe organic disease of the pelvic organs, liver or stomach was liable to follow the nervous derangement. The liver was often involved and the stomach secondarily so. Treatment should be based on the complication present.

Dr. HORACE TRACY HANKS (of New York) thought treatment consisted mainly in quieting the nervous irritability, and in judicious feeding by mouth or rectum. Then local conditions should be enquired into and treated accordingly. He had had good results from washing out the stomach. When induction of labour was indicated, he thought that in the early months this should be done at one sitting, under anæsthesia ; later, by packing the lower zone of the uterus with iodoform gauze.

Dr. CHARLES JEWETT (of Brooklyn, N.Y.) advised the use of chloral and bromides for allaying irritability—he employed them by the rectum in maximum doses of 120 grains daily. Locally he had found satisfaction in the application of cocaine, both to the vaginal portion and in the interior of the canal. He had lately combined this with Copeman's method. He thought evacuation of the uterus was often too long delayed.

Dr. J. CHALMERS CAMERON (of Montreal) observed that here it was especially important to treat the patient, and not the disease. Dr. Giles had clearly pointed out that the three chief factors in hyperemesis were : (1) increased nerve-tension ; (2) a peripheral irritant ; (3) an easy channel for the discharge of nerve, especially the vagus. A

rational treatment should proceed along these lines. Centric irritation was to be relieved by nerve sedatives; peripheric irritants were to be removed; but sufficient attention had not been paid to local treatment for making the discharge channel less facile.

After some remarks by the PRESIDENT and Dr. J. F. McDONALD (of Hopewell, N. Y.), Dr. ALGERNON TEMPLE replied.

Dr. GILES showed, for Dr. R. Barnes (of London), a drawing to illustrate "Barnes' Boundary Line" in placenta previa.

Dr. BERRY HART (of Edinburgh) and Dr. WRIGHT (of Toronto) spoke.

Dr. JOHN CAMPBELL (of Belfast) read a paper on "Labour Complicated by Abnormalities of the Cervix Uteri and Vagina," dealing with (1) atresia of the cervix; (2) abnormalities of the vagina, (*a*) transverse septa, (*b*) longitudinal septa; (3) abnormalities of the hymen; (4) a case complicated by dilated urethra.

Drs. MURRAY (of New York), HOWARD KELLY (Baltimore), and JEWETT (Brooklyn), joined in the discussion.

Dr. W. C. LUSK (of New York) gave "A Contribution to the Study of the First Stage of Labour from a Frozen Section," illustrated by drawings, photographs and plaster casts.

Dr. BERRY HART complimented Dr. Lusk on his admirable and thorough piece of work.

Dr. WILLIAM GARDNER showed a specimen of vesical calculi, removed from the bladder in a case of *procidencia*.

Papers by Prof. MAYO ROBSON (of Leeds), on "Porro's Operation for Tumour of the Pelvis Complicating Pregnancy," and Dr. T. W. EDEN (of London, England), on "Spurious Abortion, with three Cases," completed the business of the sitting.

Second Day.

The President, Prof. W. JAPP SINCLAIR (of Manchester), delivered an address on "Injuries of Parturition, the Old

and the New." It is impossible to summarise in a few lines this important address ; but as it has already appeared in abstract in several journals, most of our readers have probably read it. If any have not done so, we should strongly advise them to take an early opportunity of studying it, as they will find in it much that is both important and suggestive.

Dr. FRANKLIN A. MARTIN (of Chicago) gave "A Further Review of the Treatment of Fibroid Tumours of the Uterus by Vaginal Ligation of the Base of the Broad Ligament," which he summarised as follows :—

(1) The operation of vaginal ligation of a portion of the base of the broad ligament, including the uterine arteries and their branches, may be considered a minor operation from the standpoint of mortality.

(2) The operation has for its object (*a*) the reduction of the tumour by starvation ; (*b*) the cure of uterine hæmorrhage by depriving the uterus of two-thirds of its blood supply.

(3) The operation does not remove the essential organs of generation in effecting a cure, and, therefore, does not make future childbearing impossible.

(4) The operation is particularly applicable in those desperate hæmorrhagic cases where the depletion is such that radical measures are positively prohibited.

(5) It may be resorted to in cases of fibroids of the uterus in which complications are such that the ordinary radical procedures become too dangerous, or in more desperate cases in which such operations are practically impossible.

(6) The operation is specially indicated in all small bleeding fibroids of interstitial character which are discovered because of their rapid growth and increased hæmorrhage just as the menopause is approaching.

(7) The operation may be employed as a substitute in all cases of growing and bleeding fibroids in which patients, from fear or prejudice, absolutely object to radical procedures.

(8) The operation may become a routine practice of great value in all bleeding or growing fibroids in which the tumour, or tumours, have not become a burden because of size, and in which they are sufficiently interstitial, so that they receive their principal blood supply through the uterine arteries.

(9) In fourteen cases of excessively hæmorrhagic fibroids in which two or more years have elapsed since the operation, there has been but one relapse of hæmorrhage and one of pain.

(10) The operation is not applicable in cases of pediculated tumours of the submucous or subperitoneal variety.

The paper was discussed by Dr. VINEBERG of New York, Dr. JONES of Rochester, Dr. SKENE of Brooklyn, and Dr. MARTIN replied.

A discussion on "The Vaginal *versus* the Abdominal Route in dealing with Inflammatory Conditions and Tumours of the Pelvis," was introduced by Dr. ERNEST W. CUSHING, of Boston, who said the advantages of the vaginal operation were: absence of the cicatrix in abdomen; less danger of hernia; less shock. The abdominal route had the advantages of greater certainty in diagnosis; greater facility in working by sight; greater possibility in meeting unforeseen conditions or complications, such as rents in intestine or an adherent appendix, and less danger of wounding the ureters.

Dr. SKENE (Brooklyn), formerly advocated vaginal section; but was impressed by the favourable results of the abdominal section.

Dr. JOHN CAMPBELL (Belfast), said that danger to the patient was the true test of the suitability of an operation, and they were not yet so certain of the safety of the vaginal method as to enable them to prefer it. Cases naturally fell into two groups: (1) those in which the inflamed mass was small and localized, for these the best course was abdominal section; (2) cases in which the inflammation was diffused in the pelvis.

Dr. ROSS (of Toronto) still thought the method of operating from above to be preferable. Hernia occurred after vaginal operations as well as after abdominal ones; and when it occurred through the vagina, it was more difficult to deal with than when it was through the anterior abdominal wound. He concluded by enumerating many drawbacks to the vaginal method.

Dr. LAPHORN SMITH (Montreal) warmly supported the abdominal method, not from theory, but from experience.

Dr. BERRY HART (Edinburgh) thought this question should be considered impartially, and not as one of special pleading for the abdominal or the vaginal incision. The majority of cases could best be treated by abdominal section; but in some cases, especially where the uterus and appendages were fixed down, or where there was parametric suppuration, the vaginal route was excellent.

Dr. CURRIER (New York) agreed that the personal equation, as stated by Dr. Cushing, was after all the essential point, *i.e.*, every man should use the method which he could do best, the interest of the patient being paramount. The advantage of drainage was probably that which gave the greatest value to the vaginal route, and this advantage was undoubted. The wholesale removal of uteri by the vaginal method, whether diseased or not, was a blot upon the record of the operation.

Dr. CUSHING briefly replied.

Dr. HOWARD KELLY gave a demonstration on the examination of the female bladder and ureters at the Royal Victoria Hospital.

Third day.

A paper on "Obliteration of the Cervix Uteri," in French, was read by Dr. F. LIPPE (of St. Ambroise de Kildare, Quebec).

A discussion on Conservative Treatment of Diseases of the Uterine Appendages was opened by a paper by Dr. J. F. W. ROSS (of Toronto), who dealt with tuberculous disease of these organs.

This was followed by "The Conservative and other Treatment of Diseases of the Fallopian Tubes," by Dr. T. MORE MADDEN (of Dublin) ; whilst Dr. HOWARD KELLY (of Baltimore) contributed a paper on "Conservative Treatment of the Ovary in Hysterectomy and Hystero-myomectomy."

Dr. A. PALMER-DUDLEY (of New York) applied himself to the question, "To what extent can we do Conservative Surgery upon the Uterine Appendages with safety to the patient?" He gave an account of his own work in this direction, saying : "I determined, if possible, should a case present, to test the recuperative power of the ovary itself, and in the fall of 1887 I was consulted by a woman who required laparotomy, but begged that her ovaries might not be sacrificed. I gave her my promise, and did the work, removing portions of the ovaries, and bringing the remainder together with fine silk suture. This patient made an uninterrupted recovery, and a few months later became pregnant. Fearing the pregnancy would undo what I had done for her, in spite of my advice to the contrary, she induced an abortion upon herself by injecting the uterus with hot water. Such cases as I am speaking of are not of every-day occurrence, and it was some time before I secured another. Time will not allow me to give a description of the many cases I have had since ; suffice it to say that up to the present time I have records of 68 cases where I have removed portions of the tubes and ovaries, and returned the appendages to the pelvis. I have not been able to trace them all in their after-history, but I have secured the record of 12 cases where a pregnancy has followed, and of these 12, 8 have borne children, and 4 have aborted from one cause or another. In the whole 68 cases I have never seen inflammation follow in the appendage that could be detected by careful bimanual touch in a single case. In many of these cases I have cut the ovary completely in two, longitudinally, removed cysts from its centre, and sewn it up again. I have cross-sectioned it and sewn it together. I

have taken V-shaped pieces out of it and closed the remainder, and for cystic degeneration I have punctured it through and through in many cases many times. I have even removed almost the entire ovary, leaving a portion, possibly not larger than a pea, and fastened that to the extremity of the tube." He concluded with an account of the various conservative procedures he had adopted in the case of the Fallopian tubes.

Dr. BERRY HART (of Edinburgh) agreed with Dr. Dudley that the conservative treatment of appendage disease had a future. Of course there might be incomplete operations in some cases, and recurrence of disease might take place. He did not agree with those who advocated tapping *per vaginam* in tubal disease.

Dr. PERRIGO (of Montreal) expressed his pleasure at the courage of Dr. Dudley's remarks, and reported a case in which he had removed a typical right ovarian abscess, the left being healthy. The result of such conservatism was that he had twice since confined his patient, who was now three months pregnant with her third child.

Dr. GORDON (of Portland, Maine), in discussing these papers, said: I may say that I may possibly be classed by my friends, and certainly by my enemies, as a Radical. While I have been in times past a teacher to some extent of Dr. Dudley, I am sure that some of the things I tried to teach him have remained, yet he has acquired much that I did not teach him, and while I approve of most of his views I may differ in others. I most fully endorse his conservative work and teaching in his treatment of ovaries and tubes. I know from much observation of it and from my own experience that this is work in the right direction, and too much of it cannot be done when done as well as he does it. It is only a question of judgment as to what cases require it and what cases may need ablation altogether. I think men are apt to look upon women and their functions from a man's point of view and not from a woman's point of view. This function of menstruation when attended by severe

suffering, is not so "dear to women" as some seem to believe. I have had a large experience with women and their sufferings, and when you fully comprehend the years of agony and invalidism that they have endured through the class of cases alluded to in the papers read this morning, you will find that this monthly crisis is one they dread, and if by any means reasonable they could avoid it they would do so only too gladly. In this extremity they often wish they had been born of the other sex. Often have they wished themselves men. Menstruation is not such a great boon as many men seem to think, and most gladly would women dispense with it if thereby they can be made healthy and be able to discharge their various duties in life and enjoy what they can enjoy only by perfect health. Now, while I am fully in accord with any and every operation that gives health and at the same time conserves any organ or function, I am sure that much is done in the name of conservatism that conserves only a seriously diseased organ, retains a horribly distressing function, and leaves the woman in a "last state as bad as the first." What I do protest against is a conservatism that leaves a uterus in the pelvis, after removing pus tubes and ovaries that have become affected through the uterus, which itself still contains germs of infection, and may and often does keep up a congested condition of the pelvis, giving the woman pain and suffering until it is removed.

Dr. ARTHUR GILES (of London) said that the ultimate test of the value of conservative or radical procedures in dealing with disease of the ovaries and tubes must be the after-histories of these cases. If, as the result of conservative procedures, the patient's health was completely restored with the preservation of the functions natural to a woman, they could not but feel that Dr. Palmer-Dudley was doing good work in breaking up this comparatively fresh ground. He did not think it was mere sentiment to wish to preserve to women their normal functions. They, as physicians, were not really concerned whether in the abstract women

wished to menstruate and bear children or not. Their aim should be to secure the normal working of every organ. This ought to hold as true in gynæcology as in other branches of medicine. On the other hand, conservative procedures might result in the patient not being cured. It was after all a serious thing to have to perform a second abdominal section on a woman. He would urge that the after-histories of these cases should be carefully inquired into, and more generally recorded, so that some criterion might be set up, to serve as a guide in deciding on the course of treatment to be adopted in each individual case.

Dr. WILLIAM GARDNER (of Montreal) said that in the matter of the symptoms of tuberculosis of the pelvic organs, his experience had not been quite similar to that of Dr. Ross. Pain had not been invariably present, neither had there been always elevation of temperature. Dr. Ross in one of his cases had spoken of an ulcer on one of the uterosacral ligaments, and in another of cheesy pus in the Fallopian tubes of a girl who had never menstruated, as evidences of tuberculosis in these respective cases. Without confirmatory evidence, microscopic or otherwise, he (Dr. Gardner) ventured to think the evidence was not conclusive. In his experience, nothing was more difficult than to diagnose genital tuberculosis from the symptoms, so closely did they resemble those of other infective diseases of these organs.

A discussion on "The Palliative and Radical Treatment of Uterine Flexions and Displacements," was opened by Dr. A. LAPHORN SMITH (Montreal), who took as his subject "The Diagnosis and Treatment of Retroversion of the Uterus, with Fixation, and the results of 147 operations for Retroversion." In 53 cases Alexander's operation had been done, and in 94 ventro-fixation. Comparing the two, he said : — "Alexander's operation is positively contra-indicated in every case of retroversion in which the uterus is adherent; and in the inability to diagnose adhesions lies the commonest cause of failures of the operation to relieve. Anyone, of course, can recognise them when the uterus is

retroverted and absolutely immovable. But in many cases the uterus is apparently movable, and by the aid of the sound, and even by manual palpation, it can be brought up to the symphysis ; but when the sound or the fingers are removed, it immediately springs back into its abnormal position. Such a condition absolutely contra - indicates shortening of the ligaments ; for if we were to open the abdomen we would find one or many layers of adhesions, which are put upon the stretch the moment we attempt to draw the fundus forward, and the steady pulling which they would keep up would pull the shortened ligaments out of their anchorages. So that it may be laid down as a good rule never to attempt shortening of the ligaments unless the uterus can be easily put up, and unless it will stay up, for a few minutes at least. The question has often come up for discussion, whether Alexander's operation is suitable for prolapse, and some have taken the ground that it is not. The writer's experience, however, shows that it gives a very satisfactory result in these cases, especially when combined with amputation of enough of the cervix to reduce the uterus to its normal weight, and with operations on the anterior and posterior walls to close and strengthen the pelvic outlet. It would be a mistake to call upon the ligaments to carry a heavy uterus ; they were only originally intended to draw the fundus forwards during powerful contractions of the abdominal muscle, so that the intestines might be forced behind instead of in front of the uterus.

VENTRO-FIXATIONS.

"Of the 94 cases thus treated, in 21 both ovaries and tubes were removed, in 26 one ovary and tube was removed. In most of the cases the uterus was retroverted and fixed in the hollow of the sacrum, owing to leaky pus tubes having set up repeated attacks of pelvic peritonitis, forming layer upon layer of adhesions binding down the ovaries and tubes under the uterus, and constituting

inflammatory exudation, which in time becomes organised. The condition of many of these women was pitiful, as working or walking, or performing their marital duties caused excruciating pain, and was often followed by peritonitis, which confined them to bed for several weeks. The ovaries were generally fixed about two inches from the entrance to the vagina, and the uterus about three inches. Owing to their faulty position, the circulation of these organs was very bad, causing them to be exceedingly congested and tender. Because the ovaries and tubes had been diseased for a long time they were removed; but there was another reason for doing so, for in order to lift the uterus up it was absolutely necessary to dig the ovaries out of their bed of adhesions, and in doing so they were frequently torn and bruised very seriously.

A few words should be said about the stitches for fastening the uterus to the abdomen. The writer is now using a very fine size of silkworm gut, which appears to be much less liable to cause suppuration than silk. The results have been most gratifying in all cases when at the same time the tubes and ovaries have been removed. If they are healthy there will be no adhesions, and ventro-fixation should not be done at all; on the other hand, the results of Alexander's operation have been satisfactory in all cases in which the tubes and ovaries are healthy. When they are not healthy, Alexander's operation should not be done.

A paper by Dr. INGLIS PARSONS (London) followed, advocating "A new Method of Treatment for Prolapse of the Uterus." This consisted in setting up a mild attack of pelvic cellulitis, by the hypodermic injection of quinine into the broad ligaments. A case was related in which this plan had been adopted, with admirable results.

Dr. R. A. MURRAY (of New York) put in a plea for the preventive treatment of displacements by proper care and attention at the time of labour. The principle that the uterus is sustained normally by the ligaments and not by the floor of the pelvis is undoubtedly the correct one. Nature's

plan of holding organs in place is by suspension through ligaments—the uterus is no exception to this rule. We must therefore look to the ligaments to support the uterus in its normal position, and make use of them in retaining a uterus in the position to which we have restored it. [The various displacements of the uterus which are generally recognised were then discussed in succession.]

For a permanent cure of chronic displacements the round ligaments are the chief resource and the most available structures for retaining the uterus in its normal position. [Without going into the discussion of the relative merits of ventro-fixation and Alexander's operation, the method of shortening round ligaments by an incision through the anterior vaginal fornix was described and advocated]. This operation permitted of conservative treatment of the appendages or their complete ablation, as was indicated by the condition. The operation gives promise of wide application, and avoids the objectionable features of both ventro-fixation and Alexander's operation.

Dr. GARDNER (of Montreal) wished to emphasise the remarks of a previous speaker as to the importance of healthy nutrition of the pelvic organs from the point of view of both the prevention and the cure of displacements. He had very little experience of the methods of vaginal fixation, and it was not very favourable. Of the other procedures, shortening of the round ligaments and ventro-fixation or suspensio uteri, he had a very large experience, and it was so favourable that he meant to continue to practise them till he had learnt a more excellent way. They were not, however, to be considered as alternative except in a small percentage of cases. He had found the method by hysteropexy much the least liable to relapse. In estimating the results of those procedures for the relief of displacements, it must be remembered that most cases of pelvic disease in women were complex, and that displacement was one of a number of elements, the only one which could be directly remedied by such operations. There could, however, be no doubt that a

normal position of the uterus favours its recovery from certain morbid conditions.

Dr. BERRY HART (of Edinburgh) read an important paper on "The Morphology of the Vagina," illustrated by diagrams and microscopic preparations.

Papers by Dr. T. J. ALLOWAY (Montreal), on "Gauze Packing in Pelvic Surgery," and Dr. J. MACPHERSON LAWRIE (Weymouth), "Notes on Thirty-three Cases of Abdominal Section," concluded the business of the Section.

ARTHUR E. GILES.

SUMMARY OF GYNÆCOLOGY, INCLUDING OBSTETRICS.

GYNÆCOLOGICAL.

TWO IMPROVEMENTS OF DOYEN'S METHOD OF VAGINAL EXTRACTION OF MYOMATOUS UTERI. By Professor LANDAU. *Centralblatt für Gynäkologie*, June 12, 1897.

Dr. Landau finds two defects in the method. The first is the employment of extensive ligatures; the second is the difficulty of forming sufficiently long pedicles out of the broad ligaments.

Landau advises that neither clamps nor extensive ligatures should be applied during the excision to the broad ligaments, but that these should be cut through and the spouting vessels seized one by one and tied, whereupon the two layers of each broad ligament should be united by continuous catgut sutures. This was done in two cases of vaginal hysterectomy for fibroids, and it seemed very practicable. He also advises that the vagino-peritoneal wound be not left open after hysterectomy, but that it should be closed up completely by a continuous catgut suture which should secure both walls of the vagina and both peritoneal layers.

HYSTEROPEXY AND PREGNANCY. By Dr. EMILIO BORALEVI. *Annali di Ostetricia e Gynecologia*, September, 1897.

This is an inaugural thesis written from the materials of the clinic of Professor Pestalozzi, of Florence, and is concerned chiefly with the comparison of the merits of vaginal fixation and ventro-fixation when pregnancy supervenes.

In speaking of vaginal fixation it must be noticed that there is a great difference between trans-peritoneal fixation and intra-peritoneal fixation, since in the first the union is sero-serous and hence weak and extensible, while in the second case it is fibrous and firm and very slightly extensible.

If the uterus which is bound down by the fixation cannot expand sufficiently in its posterior and lateral aspects abortion results. Dührssen had 25 per cent. abortion, and Weberstadt 27 per cent. Thus 75 per cent. went to term. The following cases of obstruction of labour are collected:—

Velde communicated a case of absolute obstruction with fatal uterine laceration, to the Berlin Medical Society, October 21, 1895.

Graefe reports a case where Cæsarean section was required after vaginal fixation by Mackenrodt's method. The patient recovered.

Strassmann reports two cases. The first was terminated by version after great trouble and much laceration. The second was a case of cœlio-myomectomy *per vaginam* followed by fixation.

Cæsarean section was performed by Gusserow, but the patient died of hæmorrhage.

In these four cases the foetus presented transversly; in all the anterior uterine wall was thinned and bulged forward, so that the presenting part was caught in the fossa thus made. Attempts at version were made in all cases, and only in one was it carried out, and then with difficulty.

In ventro-fixation followed by pregnancy the abortions were only 6 in 74 cases, or about 8 per cent. Küstner observed two pregnancies after ventro-fixation terminate in abortion.

Goodwin noted several pregnancies after ventro-fixation which terminated normally. Pain was, however, produced by the dragging of the uterus upon the cicatrix.

Strassmann saw a case terminate spontaneously after ventro-fixation.

Thus the pregnancies going to term after ventro-fixation were 90 per cent. The disturbances were only dragging pains.

Operative interference has been required in 14 cases, out of all the ventro-fixations so far performed; 3 Cæsarean section, 6 forceps, 5 version.

He reasons that ventro-fixation is the operation when there is a possibility of pregnancy, because it does not greatly obstruct labour, and he comes to the following conclusions:—

(1) In mobile retroflexions which have not been treated successfully by pessaries or Alexander's operation, and in all cases of fixed retroflexion which require surgical interference ventro-fixation is indicated, because (a) under present surgical conditions it is not dangerous; (b) it replaces the uterus in its physiological position; (c) relapse is rare if care be taken; (d) the bladder is seldom incommoded; (e) conception is facilitated; (f) it allows pregnancy to go to term; (g) it does not lead to complications during labour.

(2) Vaginal fixation is advised against because (a) relapses are more frequent after it than after ventro-fixation; (b) it places the uterus in pathological antelexion; (c) with frequent vesical disturbances; (d) it hinders conception; (e) it leads to frequent abortion; (f) it may expose the woman to grave dangers during labour.

UNNECESSARY AND UNNATURAL FIXATION OF THE UTERUS AND ITS RESULTS. By JAMES F. W. ROSS, M.D., of Toronto, Canada. *The American Journal of Obstetrics and Diseases of Women and Children* for December, 1896.

This paper is a powerful denunciation of all methods of fixation of the uterus. Dr. Ross does not believe that "displacements of themselves give rise to the terrible array of symptoms with which they are credited," but that by leaving the uterus alone, investigating carefully all the surrounding circumstances, and applying judicious medical treatment the patient may be cured. If lateral displacements give rise to no symptoms when the uterus is pressed far toward one side or the other by an intrapelvic growth, it seems peculiar that backward flexion should be endowed with such ill consequences. In young women the treatment of the flexions will not cure the patients except in exceptional cases.

He compares the uterus to the kidney and says, "Buried sutures are suited for application neither to the kidney nor uterus (with one exception, viz., complete descensus uteri [after perinæorrhaphy has failed to support]; in which case fixation of the fundus uteri by buried suture is indicated, with excision of a portion of each tube to prevent pregnancy.)

Recurrences of retroflexion are more frequent than are stated by many of the operators, and in many cases in which a relapse could not be said to have taken place the symptoms were not relieved. In the light of experience of the difficulties met with in cases in which the buried suture has been placed and subsequent pregnancy has occurred, it becomes almost criminal to use a buried suture without removing a portion of each tube to prevent subsequent pregnancy. Fixation by buried sutures endangers the woman from an early miscarriage, and endangers her later, should the pregnancy proceed, by producing a thickening of the uterine wall that impedes the natural process of labour.

Dr. Ross is satisfied "that vaginal fixation of Dührssen is anatomically incorrect, carrying the uterus from one extreme to the other. After reviewing the treatment adopted by Fowler, Mundé, and the treatment by ventro-fixation, he notes that Scauzoni admitted that, after he had discarded all mechanical supports for the uterus and contented himself with cold vaginal injections, together with the antiphlogistic treatment of any chronic uterine inflammation and the application of caustic to the os uteri, and with the endeavour to remove the chlorotic symptoms which are seldom absent, he was much better satisfied with the results.

"It is not so much the displacement itself, but the state of the uterus associated with the displacement that requires

treatment." "We should also be willing to admit that we know little or nothing regarding the amount of local suffering or functional disturbance that they produce."

J. F. J.

ON THE VALUE OF FIXATION OF THE UTERUS IN CASES OF PROLAPSE. By WILTHAUER, Halle. *Munch. med. Wchns.*, 1897, No. 33, p. 913.

Fixation has not fulfilled the hopes held out by its originators. In the operative treatment of retroflexion Wiltbauer never performs vagino-fixation before the menopause. In women not past childbearing, when other methods have failed, he prefers to perform ventro-fixation; so also in prolapse, when making the colporrhaphy he in the former case generally does a vaginal fixation, but if there is still a possibility of conception he does a ventro-fixation.

Having had much success with vagino-fixation, he feels it the more important to report his failures. The results of others are not very good, of ten cases operated on by B. S. Schultze by Mackenrodt's method eight relapsed. Madlener had one relapse in four cases by Dührssen's. Theoretically Mackenrodt's operation gives firmer support, but two of Wiltbauer's cases show that solid attachments are not always formed; in both the anterior uterine wall was fixed just in the way desired, but prolapse recurred and to a greater extent. He narrates the following case:—

IX.-para, 47, last labour eight years ago. Vaginal prolapse on any exertion. Pessary treatment has failed repeatedly.

Prolapse of uterus and vagina, 8 cm., erosion of portio. Reduction easy, uterus lying in retroversion.

June 13, 1896.—Excision of a large oval flap in anterior vaginal wall. Vagino-fixation, anterior colporrhaphy, posterior ditto (Hegar). Normal recovery, patient discharged with the uterus well antiflexed, the perinæum retracted and the vagina very narrow.

September 1, 1896.—The uterus still firmly attached to, but rotated about, its point of fixation. Portio and posterior vaginal wall protruding through the open vagina.

J. J. M.

A PRELIMINARY REPORT ON A NEW METHOD OF VAGINAL FIXATION. By Dr. E. REYNOLDS. *Univ. Med. Review*.

Dr. Edward Reynolds, of Boston, after describing the forces which determine the normal position of the uterus and showing, by means of drawings, how a faulty attachment, anteriorly or posteriorly, would throw the uterus backward or forward, described an operation designed to correct a too low anterior attachment. An anterior vaginal incision, similar to that made

in hysterectomy, is made, and the bladder separated up to the level of the internal os; the uterus is then put into position and the point at which the bladder separates from the anterior wall is determined by a sound introduced into the bladder; a silver wire suture in a silk carrier is introduced in the vaginal wall at a point in front of the separation from the bladder, passing obliquely through the tissues and emerging on the cut surface below the junction of the vaginal wall with the bladder, and then drawn through the cervix at the level of the internal os and brought out through the anterior vaginal wall at a similar point on the opposite side. A second suture is placed as near the first as is convenient, care being taken that the uterus is still well forward. The sutures are then twisted and turned down. As the stitches will be exposed to considerable traction, coarse wire should be used. The cut edges of the mucous membrane are then stitched together with fine catgut in such a way as not to increase the tension on the deep sutures.

RETROVERSION OF UTERUS, ONE HUNDRED AND FORTY-SEVEN CASES. By LAPHORNE SMITH, M.D. (Read before the American Gynæcological Society at Washington, May 6, 1897.)

Dr. Smith's paper was based upon ninety-four ventro-fixations and fifty-three Alexander's operations. He held that ventro-fixation was the only operation that should be entertained in cases of retroversion with adhesions; but it should not be done when the uterus was movable and when there was no disease of the appendages requiring abdominal section, in which cases Alexander's operation had given excellent results. There should be no death rate to either operation, neither should there ever be hernia, either ventral or inguinal, if the following directions were followed. The two operations were equally easy, although a few years ago the author was opposed to Alexander's operation on account of its difficulty. Now he could invariably find the ligaments, and generally in from half a minute to a minute and a half. He warned his hearers not to do Alexander's operation if there were any adhesions, even if they were loose enough to permit the uterus to be lifted up; because they would be put upon the stretch and would drag so much upon the ligaments as to finally pull them out of their anchorage. In laying down the *technique* of Alexander's operation, he placed great stress upon the importance of putting aside all cutting instruments as soon as the skin, superficial and deep fascia had been cut through. Instead of laying open the inguinal canal as advocated by some writers, he advised his hearers not to cut a single fibre of the intercolumnar fascia, which was the principal support of the pillars. Moreover, he

said, the slightest nick of the fascia of the internal oblique would lead to a false passage and failure to find the ligament. If no cutting instruments were used, but only a Pean's forceps to draw out the ligament, there would be no difficulty in finding it, because there was nothing else in the canal but the ligament. In fact, with the eyes bandaged it could be found and drawn out, simply by introducing the closed forceps and then opening them, when the round ligament will fall into them and can be drawn out. He advocated the use of fine silk-worm gut, which could be thoroughly sterilised and left in permanently. Occasionally he had been obliged to remove a buried stitch. In case any fibres of the intercolumnar or internal oblique should be accidentally cut, great care should be exercised in sewing them up to avoid hernia. He had only had one relapse after ventro-fixation and one after Alexander, which were both subsequently repaired. Several of the cases of ventro-fixation had since become pregnant and had had normal confinements. Also several cases of Alexander had had children. Many of the patients had been bedridden invalids for years before, and were now enjoying excellent health. Both operations, each in its proper sphere, had given the greatest possible satisfaction. F. F. S.

THE MOST POTENT CAUSES OF PELVIC INFLAMMATION. By RUFUS B. HALL, M.D., Cincinnati. *The American Journal of Obstetrics and Diseases of Women and Children*, Dec., 1896.

In addition to reference to septic infection following labour and gonorrhœa, special stress is laid upon septic infection following abortion. A septic endometritis following abortion is not well when the patient is able to leave her bed, but it requires an indefinite time for Nature to repair the diseased process. The salpingitis directly due to endometritis may go on to suppuration in the tube notwithstanding well directed treatment. This salpingitis is much more frequent than is generally supposed. Better results would be obtained in all septic cases if the patient were anæsthetised and the uterus thoroughly emptied of its septic contents. The patient then usually makes a prompt recovery.

THE OPERATIVE SIGNIFICANCE OF METASTASES AND POST-OPERATIVE RECURRENCES IN CARCINOMA OF THE UTERUS. By W. W. RUSSELL, M.D., Baltimore. *The American Journal of Obstetrics and Diseases of Women and Children*, Dec., 1896.

This is a valuable paper, in which Dr. Russell draws special attention to the operative significance of some of the anatomical and pathological facts upon which any advance in treatment must depend. A full description (with plate) is given of the lymphatics of the uterus and vagina. The direction of the

vessels and the position of their glands can be separated into three distinct groups. The first group corresponds to the uterine vessel and its terminal branches and supplies upper one third of vagina and cervix. The first glands connected with this group are found in the parametrium at the broad ligament bases a short distance from the cervix. The next glands are those situated at the dividing point of the iliac vessels. The second group contains the lymphatic vessels supplying the greater part of the uterine body and passing out from it along the upper part of the broad ligament in close relation with the ovarian arteries. The first glands met with in this group are those in the lumbar region. The third group consists of vessels originating in the uterine cornu and passing out in the round ligament to the inguinal glands. There therefore exist three avenues of escape for malignant growths of the uterus. When the disease has passed beyond the limits of either group, rendering possible the invasion of the lymph vessels of the body by growths originating in the cervix, all chance of complete removal is gone.

Carcinoma of the uterus is divided anatomically into (1) carcinoma of portio vaginalis; (2) carcinoma of cervix; (3) carcinoma of the body.

Cancers of the portio vaginalis are primarily superficial growths. If they penetrate the deep tissue of the cervix they may reach the parametrium and the lymphatics. If they extend over the vaginal mucous membrane they give the best chance of complete eradication.

But very deceptive cases are those in which the extension is by direct but only superficial continuation of the growth. From specimens examined the vaginal demarcation has been found to be an inch or more further microscopically than macroscopically. The obvious thing to remember here is to remove the vaginal wall freely.

In cancer of the cervix the direction of invasion is usually laterally into and through the walls of the cervix, and this, too, is the more dangerous in that the disease comes in contact with the bladder and parametrium. In cases suitable for operation the disease is usually confined above by the internal os, and below by the lips of the cervix. There may be isolated secondary nodules in the mucous membrane of the uterine cavity which would have an operative significance.

In cancer of the body of the uterus extension may occur by penetration of the wall and implantation of the growth on the peritoneal surface, by extension beyond the internal os to the cervix, by infection of broad ligaments, by the lymphatics, by infection of the lymphatics of the round ligaments, and by extension through the mucous membrane to the tube. Fortunately

the tendency is for the growth to remain confined to the uterine body and slowly penetrate its walls. The whole organ may be degenerated into a malignant mass and yet show no evidence of disease beyond its limits. Attention is drawn to the relationship of the different varieties of cancer of the uterus to their tendency to recurrence. In epithelial carcinoma of the portio vaginalis the tendency of the disease is to remain localised; an enlargement of the related lymphatic gland does not always signify a metastatic growth.

Forty-seven cases of cancer of the uterus subsequent to hysterectomy were investigated. In nine cases of cancer of the body there were two recurrences in periods of from one to five years. In thirty cases of carcinoma of the cervix (not portio vaginalis) sixteen have since died of local recurrence. Thirteen of the thirty began as epitheliomata of the portio and then spread to the cervix. The remainder were malignant adenomata, most dangerous of all cancers of the uterus, from the direction of their extension baffling all attempts at complete removal, unless seen in a very early stage. The practical deductions to be drawn are:—

(1) In cancers of the portio vaginalis, if the case is suitable for operative treatment, a wide removal of the vagina is indicated.

(2) If the local extirpation is complete the prognosis is good.

(3) Growths of the cervix are usually adeno-carcinomata and are most malignant. The parametrium should be removed as completely as possible.

(4) Adeno-carcinomata of the body are most accessible to operative procedure and give the most favourable prognosis.

(5) The hysterectomy for cancer of the body should include wide removal of broad ligaments, tubes, ovaries, and round ligaments.

(6) The pelvic glands should be enucleated if possible.

(7) Every precaution should be taken to avoid implanting cancer cells on raw surfaces.

J. F. J.

HÆMATOMA OF THE EXTERNAL GENITALS. By BINDER, Plauen.

Centralbt. f. Gynäk., 1897, No. 34.

In a woman of 39, not gravid, and an habitual drinker, the right labium and the whole of the right wall of the vagina was the seat of a hæmatoma following an effusion of blood into the buttock of the same side. This effusion had taken place as she was lifting a tub containing about three pails of water from a stool to the ground, which the author does not consider implied an exertion exceeding ordinary woman's work. The effused blood, which caused great pain, was absorbed in fourteen days. Such cases are rare, and some change in the vessels due to the

misuse of alcohol must, he thinks, have been a factor in the case.

J. J. M.

ASCITES IN YOUNG GIRLS. By M. BONILLY, Surgeon to the Cochin Hospital. *Journal de Médecine de Paris*, October 10, 1896.

Cruveilhier was the first who described, under the name of "ascites in young girls," a variety of abdominal dropsy occurring at the time of puberty or some years after. This author considered it an idiopathic affection, as the intra-peritoneal effusion seemed to constitute the whole of the affection, often appearing without any premonitory symptoms, and sometimes disappearing spontaneously.

M. Bonilly thinks that this variety of ascites is attributable to tuberculosis of the Fallopian tubes and ovaries, and subsequently of the peritoneum. In support of this idea, he records his own observation from a large number of laparotomies of many cases of real local tuberculosis of the deep genital organs affecting the peritoneum more or less according to the intensity and duration of the lesions.

When the lesions are closely examined, he says, it becomes evident that the affection has first invaded the tube where the lesions are most marked; the tubal cavity is full of pus or caseous deposit, its walls are infiltrated with granulations or interspersed with small soft foci; the peritoneum investing the tube is affected with tuberculous granulations in a less advanced degree. Similar granulations can be seen on the ovary, the broad ligament, the uterus and the pelvic peritoneum; but the abundance is always greater upon the appendages than anywhere else. Whether the mode of infection has been through the blood or the lymph, the tuberculous invasion has always appeared to concentrate itself upon the genital organs. The order in which these lesions appear is generally as follows: first in the Fallopian tubes, the ovaries and the peritoneum investing them; then succeed those of the uterus, broad ligaments, pelvic peritoneum, the intestinal loops which dip in the recto-uterine *cul-de-sac*. Subsequently the parietal and sub-umbilical peritoneum are invaded; also the intestinal loops situated below the umbilicus and, at last, the whole contents of the abdominal cavity.

The presence and quantity of the ascitic fluid is not in proportion to the abundance and extent of the tuberculous invasion of the peritoneum. An abundant intra-peritoneal effusion may be observed with an infection limited to the tubes, ovaries, and adjoining peritoneum, and, according to M. Bonilly's observations, it would be in this form of tuberculosis limited to the

appendages and small pelvis that the most characterised and excessive ascites are met with.

On the contrary, it not infrequently happens that in cases where the whole peritoneal cavity is invaded by the tuberculous process, the ascites is absent. The peritoneal cavity has in those cases, properly speaking, disappeared; the intestinal loops have become adherent to each other and to the abdominal walls, whereas the peritoneum, thus infiltrated with confluent granulations, seems to have lost its power of secreting exuding liquids.

Putting aside this form of dry peritonitis, it may be seen that "ascites in young girls" may be defined to be a particular form of tuberculosis limited to the appendages and small pelvis, ascitic in character, evolving slowly and without fever, with hardly any symptoms of ill-health, and without producing much change in the ordinary condition of life for a considerable time. This form is characterised clinically by the development and the presence of an intra-peritoneal effusion, presenting most of the general characters of ascites; anatomically, by tuberculosis of the uterine appendages and a tuberculous invasion more or less propagated to the adjoining peritoneum. The presence of the abdominal dropsy can easily be observed, although it may be more difficult to ascertain its nature and position; the genital lesions may be altogether unobserved.

The clinical type is almost always the same, the subjects are young girls or young women from the age of 13 to 30, the greater proportion between the ages of 16 and 24, and generally virgins or nulliparæ. As a rule pain is absent, or, after a few paroxysms of pain on one side or the other of the lower part of the abdomen, the latter increases in size insensibly in the course of several months. The development of the abdomen is moderate, the quantity of effusion hardly ever exceeding 4 to 8 litres, and very seldom attains the proportion of ordinary abdominal dropsy. The abdominal circumference may also be increased by more or less flatulence.

The patient becomes paler, anæmic, with perhaps a slight puffiness of the face, at the same time she loses flesh and seems to be affected in her general nutrition, but she is seldom laid up and generally only consults the physician for the exaggerated abdominal development. In almost all these cases menstruation has ceased—it is a true amenorrhœa.

The abdomen does not present the character of ordinary ascites, it is not flattened in the middle and wide at the sides, more often it is prominent in front and depressed at the sides; the appearance has often been confounded with that of an ovarian cyst.

In fact, in the "ascites of young girls" the intestine, being

adherent and fixed in the pelvis, cannot acquire with the effused liquid the ordinary relation peculiar to true ascites, nor the symptoms characterising it; consequently, in spite of the presence of fluid, the tympanitic sound may persist in one of the sides, the umbilical region, instead of being resonant from the floating of the intestines on the effused liquid, may be dull. The various changes of position may not produce the usual modification in percussion brought about by the displacement of the liquid and of the intestines. There may be no fluctuation in the vaginal *cul-de-sacs*, nor any uterine ballottement in the fluid as in the majority of these cases; the adhesions have fixed the uterus and excluded the fluid from the vaginal *cul-de-sacs*.

The difficulty is still further increased by the instinctive contraction of the abdominal walls under the exploring hand.

A differential diagnosis may be made by bearing in mind the following points:—In this form of tuberculous ascites the quantity of effused liquid is not always the same at different periods at which an examination may be made. The patient herself is conscious of variations in the size of her abdomen, and examination from time to time will tend to show that such variations could only be due to an increase or diminution in the quantity of the peritoneal effusion. The same change is never observed in an ovarian cyst.

The liquid tumefaction is difficult to map out by palpation, it disappears, so to speak, under the exploring hand and presents no definite outlines. It does not appear localised but rather diffuse. Fluctuation may remain doubtful and vague except when there is a large collection of fluid. In a case where the abdomen would be of the same size, a cyst without solid parts would give definite fluctuation.

When the patient is sitting and the abdominal wall has lost its tonicity, a projection or bagging of the peritoneal fluid may be observed in the region of the recti muscles; but if any projection is observed in a case of ovarian cyst it is not limited to the central region of the recti muscles, but extends to the whole region of the abdominal contour uniformly.

The age of the patients, the disturbance of the general health, the amenorrhœa, the recollection of some painful stitches, perhaps at times with feverishness, which may have preceded or accompanied the development of the abdomen and the intra-peritoneal effusion, must be considered as important elements of diagnosis in favour of an ascites originating from tuberculosis of the uterine appendages.

In general, palpation gives little or no pain; in a few cases only it elicits pain in the region of the appendages on the sides of the uterus. A vaginal examination seldom supplies much information; combined with palpation, it may manifest on the

sides of, and behind, the uterus certain indurations and tumefactions, the presence of which would be of great value in the diagnosis as establishing a relation between the peritoneal effusion and the lesions of the appendages. But these peri-uterine symptoms may be absent, and the establishment of their presence is not indispensable to affirm a diagnosis of ascites due to a tuberculous invasion of the appendages and peritoneum. The high position of the lesions in the Fallopian tubes and the presence of liquid render more difficult the detection of the lesions; but M. Bonilly has found them to exist in all cases of ascites of this order which he has treated by laparotomy.

It is difficult to indicate in an absolute manner the course of "ascites in young girls." M. Bonilly has observed two cases in which the effusion has been re-absorbed spontaneously under the influence of a general medical treatment and of revulsions applied for a long time on the abdominal wall: once, after a single tapping, the liquid did not reappear, but the patient continued to be ill and had, some years later, to undergo a laparotomy for the removal of an enlarged tube distended with tuberculous pus and studded with granulations on its surface. In all other cases M. Bonilly has intervened.

P. Z. H.

VAGINISMUS, TREATMENT OF THREE CASES OF. By F. W. A. GODFREY, M.B. *Quarterly Medical Journal*, vol. v., part 2.

Dr. Godfrey describes these cases in detail, and in each found the same treatment successful, viz., administration of an anæsthetic, removal of all traces of the hymen, hyper-dilatation of the vagina, and subsequently systematic use of Marion Sims' vaginal dilators. He found that they did not remain well unless the dilators were used, but that after their use the patients remained perfectly well. One interesting point in two of these cases was that the patients had been previously confined, and yet still suffered from vaginismus.

TREATMENT OF PRURITUS VULVÆ. By P. RUGE. *Zeitschrift f. Gebertsh. und Gyn.* Bd. xxxiv., s. 355.

As it frequently is the local expression of a general process, such as diabetes, rheumatism, albuminuria, tuberculosis, neurasthenia, &c., local treatment often fails, and relief can be only obtained by treating the underlying general condition. Again, as it may be caused directly by some local pathological condition of the genitals, such as herpes, vaginitis, metritis, cancer of the uterus, &c., a careful local examination should reveal the cause of trouble and indicate the proper line of treatment. Some obstetricians describe an *essential* or *idiopathic* pruritus without apparent local causation, which they refer to

central causes. Säger does not admit the evidence of essential pruritus, but affirms the invariable existence of some primary disease of the vulva, which secondarily affects the nerve-endings. He therefore holds that in most cases direct external treatment will effect a cure, although in some obstinate cases resection of certain portions may be necessary. Ruge expresses the opinion that the essential part of the local treatment is thorough disinfection of both vulva and vagina. It should be done as carefully as if a vaginal operation were to be performed. Ruge washes, soaps, and then disinfected with sublimate solution the vulva, vagina, and cervix till all pathogenic micro-organisms have been removed; he then applies to the vulva an ointment of carbolated vaselin (3 to 4 per cent.). The obstetrician should carry out this local treatment himself, using his fingers, but not brushes or instruments, which might cause fresh lesions. Ruge says that the positive and immediate results are in most cases surprising. In severe as well as in mild cases, even when complicated with deep and extensive ulceration, cure is rapid. For some years he has treated systematically in this manner all cases of pruritus, whether leucorrhœa was present or not, with surprising results.

DOUBLE UTERUS WITH CONGENITAL ATRESIA OF CERVIX. By Dr. HALL. *Amer. Journ. Obst.*, May, 1897.

This patient, aged 13, first menstruated seven months previously; her second and each succeeding menstrual period had been associated with much pelvic discomfort. When first seen by Dr. Hall, she appeared to be suffering from active peritonitis, and rectal examination revealed a large tumour filling the pelvis. Under anæsthesia the tumour could be felt, extending into the abdomen towards the right, and on the left, attached to the tumour, was a small hard lump, apparently the uterus. An exploratory abdominal incision was made, when there was found a large soft tumour, springing from the right side of the uterus, splitting the layers of the broad ligament. The right Fallopian tube, 2 in. in length, seemed to enter the tumour, while the right ovary appeared healthy, and lay external to the mass. The appearances indicating a hæmatometra, it was decided to open the sac from the vagina. This was accordingly done, and the diagnosis verified by the escape of a quantity of retained menses of characteristic tarry consistence.

The sac having been emptied and washed out, the finger was introduced into it, and at the same time a sound passed through the cervix into the left uterus. By this means, and also, by inspection, it was established that the condition was one of double uterus, united laterally to within an inch of the fundus, the pelvic swelling having been formed by the retained menses

in the right half. There were but two ovaries and tubes, one each at the left of the left uterus, and one at the right of the right.

CASE OF ESTHIOMENIC MENSTRUAL ULCER OF THE NOSE. By Dr. MACNAUGHTON-JONES. *Edin. Med. Journ.*, October, 1897.

The history of this interesting case is a very lengthy one, as it was under treatment from November, 1895, to October, 1896, and may be somewhat condensed from Dr. M. Jones' own description.

The patient consulted him for a small ulcer, situated on the inner side of the column of the right nostril. The ulcer itself was flat, and covered with a thin brown scab. The edges were very slightly raised, and there was a red blush extending for a little distance around. She said that it was then better than it had been a few days previously, as the menstrual period had passed over, at which time she became much worse. The nose had been affected for seven months, but in the intervals between the catamenia the inflammation subsided, recurring with each epoch of late with marked severity. She had used various topical remedies, latterly without any effect. She had been under treatment a few years previously for amenorrhœa, and had from time to time suffered from erratic menstruation. The periods were still very scanty, and lasted at times for only a few hours.

The facial characteristics of the patient, the obvious obstinacy and increasing severity of the disease, added to its local features, gave rise at once to apprehension that the ulcer was probably of a tuberculous character, and at the outset a cautious prognosis was given.

Having carefully removed the scab, a chromic acid solution was applied to the surface, an ichthyol and iodoform ointment for application was ordered, and placed on a course of arsenic and iron, with general tonic treatment. There was no trace of tubercular disease on either side of the family, save in the instance of an aunt who had had some suspicious affection of the nose, which had been treated and cured by repeated scarifications. Father, mother, and all immediate relatives were healthy. The nose decidedly improved, but with the following menstrual period there was an exacerbation of all the symptoms—radiating pain, increase of redness, and rapid spreading of the ulcer, with formation of scab; and, believing the case to be of a tuberculous character, perchloride of iron solution was twice applied to the affected area, but, despite of the use of various astringent and antiseptic unguents and douches, and the internal administration of tonics, cod-liver oil, and thyroid extract, the

affected zone increased, and the ulcer, at the menstrual period in January, 1896, put on quite typical appearances.

During December and January, despite a variety of treatment, the condition became steadily worse, especially at the times of menstruation, and after further consultation further surgical measures were decided upon. At that time the left ala was involved, the skin of which was red and glazed, while a black scab surrounded the entire margin of the right nostril and extended to the lip. The whole was freely removed and fuming nitric acid applied. Twice within the next three weeks fresh applications had to be made, one of acid nitrate of mercury and another of chloride of zinc paste, nevertheless the disease now extended to the left side of the septum and was making its way to the lip.

Microscopic examination detected no evidence of tubercle or malignancy.

After each operative interference the surface granulated, the sore healed from the circumference, and gradually cuticle formed. During March and part of April the column was so far threatened that the cartilage of the aperture became so thin that it was quite translucent, and only a thin strip of skin remained, of a few lines in thickness. The recurrences at the left side in March, April, and May, when the part was almost healed, took place before each menstrual period, and were each time checked by operative interference. In April the dressings were commenced which were continued to the end of the case, namely, those with salactol and chinosol. The column gradually grew in size, the left side healing more perfectly than the right, where, at the site of the original ulcer, a minute abrasion persisted. This, however, ultimately healed completely, and she passed over a menstrual period without any trouble on August 17. The catamenia were encouraged by the administration of carbonate of iron and permanganate of potash, with ergot.

On several occasions the patient left London for change of air, but remained sufficiently near. She went to the seaside from August 17 to October 16, when unfortunately a recurrence took place in the right nostril on the site of the original sore. This attack again preceded a menstrual period, but the abrasion was due to her irritating the part with the nail during sleep. This yielded to the same treatment as that which has been already detailed—the application of zinc paste with salactol and chinosol dressings, and the subsequent application of the cautery.

The lady is now quite well, and there is really no noticeable disfigurement.

F. F. S.

HYSTERECTOMY BY COMBINED ABDOMINAL AND VAGINAL OPERATION. By C. B. PENROSE, M.D., Philadelphia. *The American Journal of Obstetrics and Diseases of Women and Children* for December, 1896.

This is a complete hysterectomy for cancer by the combined method, done as follows:—"The abdomen is first opened. The ovarian arteries and the round ligaments are secured by ligatures. The broad ligament is divided down to the level of the internal os, and the bladder is dissected from the anterior face of the uterus and the upper portion of the vagina. A small gauze pad is then inserted in the space between the bladder and the upper portion of the anterior vaginal wall. A similar pad is inserted at the bottom of Douglas' pouch, immediately behind the upper portion of the posterior vaginal wall. The abdominal incision is then closed. The woman is placed in the dorso-sacral position; the posterior vaginal fornix and the anterior vaginal fornix are opened by incisions made directly over the gauze pads. The incision may be made boldly and quickly, because the pads prevent intestinal injury. The vaginal mucous membrane is then divided on the sides of the cervix, and the basis of the broad ligaments are secured with large forceps. The uterus is then cut away and is removed through the vagina. The gauze pads are withdrawn and the vagina is packed with gauze. The great advantage of this operation is that the septic cervix is withdrawn through the vagina and not through the peritoneal cavity.

J. F. J.

TOTAL EXTIRPATION OF UTERUS. By Dr. MACPHERSON LAWRIE.

In a recent paper on "Total Extirpation of the Uterus," Dr. Macpherson Lawrie ascribes the frequent recurrence of disease when the operation is undertaken for malignant conditions to the fact that it may have taken a firm hold before its existence is declared by any urgent signs, and he pleads strongly for the early investigation of any doubtful uterine symptoms.

He refers to the diminishing mortality from the operation itself, and points out that the vaginal route is becoming increasingly popular for the treatment of many cases of uterine and ovarian disease.

In coming to the class of cases suitable for operation, a caution is expressed in selecting only those associated with a fairly capacious vagina, although the operation is occasionally brought to a successful conclusion when the vagina is small and the uterus only moderately tractable.

Regarding details of operation, we notice that he emphasises the importance of cutting closely to the uterus when the stage of separation from other organs is reached, and he writes at some length on the importance of ligaturing the broad ligaments,

which method he strongly advocates in preference to the clamp, although rapidity may be better attained with the clamp; this advantage is counterbalanced by the increased danger of sepsis and injury to the ureters.

He does not suture the peritoneal flaps, preferring careful adjustment and packing, and so far has had no anxiety from constricted or adherent bowel.

On Jessett's authority he puts the recent average mortality of operators in general at 10 per cent., although he states that in the hands of Jessett, himself, and others this figure is lower, and he expresses the opinion, in which we share, that it may be still further reduced.

F. F. S.

ABDOMINAL HYSTERECTOMY FOR MYOMA OF THE UTERUS.

A very interesting discussion took place at the Obstetrical Society of London on the above subject, of which, as it illustrates the views held by several of the prominent Fellows of that Society, a full report (as obtained from the *Lancet* and *British Medical Journal* of November 13) is worthy of perusal. The discussion followed a paper of Mr. Bland Sutton's with the above heading, and with brief notes of twenty-eight cases.

He said that recent improvements in the methods of performing hysterectomy had been followed by such good consequences that abdominal hysterectomy for myomata of the uterus too large to admit of vaginal myomectomy was now rapidly gaining favour, and it was becoming a plain duty to point out to patients with uterine myomata, as was done when they had ovarian tumours, that the earlier the tumours were removed the less the operative dangers, and therefore a diminished peril to life. It was for the purpose of showing how safely uncomplicated myomata of the uterus could be dealt with that he ventured to place before the Society brief records of twenty-eight cases. Whenever possible, especially when operative interference was necessary during the menstrual period of life, he reversed the conditions of oöphorectomy, so that instead of removing the ovaries and Fallopian tubes and leaving the uterus and tumour, he removed the uterus and tumour and left one or both ovaries with the corresponding Fallopian tube. This happened in fourteen cases in the subjoined list. The immediate results of this method were admirable, and spared the patient at least the inconvenience of an acute menopause.

Under 30	...	...	...	...	1
Between 30 and 40	...	...	...	...	10
Between 40 and 50	...	...	...	...	13
Above 50	...	...	...	...	4
					28

Only one patient had ceased to menstruate previously to the operation.

Mr. Alban Doran insisted that whilst an ovarian cyst nearly always caused death if not removed, a large number of uterine fibroids remained stationary and harmless. Others, however, entailed discomfort and danger, and then the surgeon must consider which was the safest operation. Altogether the retroperitoneal method seemed the best. He found that in cases where the tumour was large but the cervix free the operation was especially satisfactory. The arteries were easily reached or felt and secured, the cervix could then be divided, and the healthy mucus which it contained was free from germs. The patient was saved from the inevitable direct and secondary evils of the *serre-nœud*. This advantage was marked in six very anæmic cases where he had successfully operated; in one there was a sloughing sub-mucous growth which caused no trouble after the operation. He had lost two cases where the operation had certainly been deferred far too long; unhealthy mucus in the cervix was a source of peril in sickly subjects. No operation for burrowing and cervical fibroids could be free from danger; enlarged branches of the uterine arteries were here a source of peril. Mr. Doran objected to leaving the Fallopian tubes behind, and always endeavoured to take them away with the uterus undivided. Their contents were often unhealthy. As to the abdominal sutures no method was perfect. The numerous reports sent in at the Geneva Congress in 1896 tended to show that in every case the last method adopted by each authority was the best insurance against hernia. The fallacies in such evidence were obvious.

Dr. Playfair said that he agreed as to the great practical interest of Mr. Sutton's paper, but first he must take exception to the sweeping conclusion that had been arrived at that removal of the appendages was not to be performed in any case of fibromyoma. In his experience in properly selected cases it was one of the most valuable operations, and the results were occasionally most brilliant. He was aware that this was not the opinion of the most forward school of hysterectomists either in America or England, who seemed to hold that the mere existence of a fibromyoma, whether it produced symptoms or not, was a sufficient ground for hysterectomy. He held this theory to be most dangerous and untenable. Dr. Duncan had shown that evening quite a small fibroid, not bigger than a large orange, which he had removed by hysterectomy. Some of the Fellows had criticised this procedure and said he should have removed it by vaginal enucleation. He contended, however, that if Dr. Duncan had performed oöphorectomy he would have subjected the patient to infinitely less risk and have obtained quite as good a result.

The small mortality, which was practically *nil*, following oöphorectomy was one of the chief grounds for selecting it in suitable cases. Even in Mr. Sutton's cases there had been a mortality of 7 or 8 per cent.; conceive what it would be in less experienced and skilful hands. It seemed to him absurd to compare the risks to which the patient was subjected in performing oöphorectomy and hysterectomy. Another point he might remark on was the operation to be selected. He felt sure that the extra-peritoneal method and clamp were doomed. The long painful convalescence was most terrible, and no fact seemed to him more certain than that the intra-peritoneal plan had come to stay. He strongly advocated suture of the parietes by three separate layers.

Dr. Horrocks was surprised that no mention was made of Baer, who first described the operation. Dr. Galabin published a paper on it, and later Mr. Harrison Cripps brought forward some cases before the society. At the discussion on that paper he (Dr. Horrocks) had ventured to describe the operation with the *serre-nœud* as a barbarous one; and although exception was taken to the word at the time opinion was now largely against this so-called old operation. In one case, after using the *serre-nœud*, the patient had so much pain from the dragging of the pedicle that he opened the abdomen the second time and completed the operation by Baer's method, and the patient had been well ever since. One thing surprised him very much, and that was the large number of cases operated upon by certain operators. He could not but think that in many of these cases no operation whatever was required, for it was a well-known fact that fibroid tumours were in the majority of cases innocent tumours. They stood on quite a different footing from ovarian cysts, which almost invariably proved fatal when left alone. This point had a bearing on the mortality of Mr. Sutton's cases, for if all the twenty-eight cases were severe cases of fibroids, causing grave symptoms of hæmorrhage and such like, the loss of two, or a mortality of 7 or 6 per cent., could not be called great. He had performed the operation twelve times, with one death in a case complicated with albuminuria. Each of these cases was most serious, and none of them so small as some of those in Mr. Sutton's list. He could not agree that the mortality of the operation was as low as that of ovariectomy. He thought 7 per cent. a high mortality in ovariectomy in these days of asepsis. He entirely agreed on one point—viz., the importance of leaving the patient one or both ovaries when they were healthy. He himself had done this in several instances, and considered it a far greater mutilation to remove the ovaries than to remove the uterus.

Dr. C. H. Roberts thought it was a pity that the history of

the cases had not been fully given, particularly as regarded the symptoms which had rendered the operations described necessary. He could not agree with Mr. Sutton in many points; surely a very large number of fibroids seen did not require operation at all. He thought the sweeping assertions as to clamp and belt made by Mr. Sutton were undeserved.

Mr. Meredith expressed his entire dissent from the views held by Mr. Sutton regarding the duty of recommending early operation in cases of uterine fibromyoma, a course rightly adopted in the case of ovarian tumours. The two diseases are not comparable as regards the necessity for operative interference, since the great majority of fibromyomatous growths do not tend to imperil life and may never require surgical treatment, while ovarian tumours, on the other hand, inevitably prove fatal unless removed. It should be borne in mind that the fact of recovery after an operation by no means absolutely implies that the treatment adopted was a necessary procedure. Mr. Sutton's views on the value of the intra-peritoneal treatment of the uterine stump would appear to be founded upon somewhat insufficient data—viz., the results of only twenty-six operations, of which two proved fatal. The speaker's experience with the *serre-nœud* had given him eighty-three recoveries out of a succession of ninety abdominal hysterectomies, including a run of thirty cases without a fatality and two series of forty and forty-seven respectively with but two deaths in each, results which had not as yet, so far as he knew, been equalled by advocates of the intra-peritoneal method. At the same time, however, he fully recognised the advantages of the shorter convalescence required by this latter plan of treatment, and he had therefore now adopted it for some six months past with very satisfactory results. Mr. Sutton did not hesitate to say that the operation of oöphorectomy had now been entirely superseded by intra-peritoneal hysterectomy; but he (Mr. Meredith) still considered the operation in question to be a most valuable and efficient method of treatment in suitable instances, giving a mortality in his experience of something under 3 per cent. A considerable proportion of cases of abdominal hysterectomy, especially where the lower segment of the uterus is tolerably free from growth, will recover easily whether the stump is secured by the *serre-nœud* or by ligature; but, on the other hand, many tumours are to be met with which will tax to the utmost the knowledge and skill of the operator, and the wise surgeon will reserve to himself the power of selecting in any given instance the method of treatment which, from his own experience, he deems most likely to secure the best result for his patient.

Dr. William Duncan quite agreed with Mr. Sutton that the

intra-peritoneal method of performing hysterectomy was far superior to the extra-peritoneal method, in which a clamp had to be used and the stump left to slough away. He published in the *Lancet* about six months ago a list of eighteen consecutive cases, which comprised every case (hospital and private) he had performed, in which only one death occurred, and that took place on the eighteenth day from pulmonary embolism, when the patient was considered convalescent. He quite agreed with Mr. Doran that the appendages should be removed as well as the tumour, for in not a few cases of fibroids of the uterus it is well known that the tubes contain pus, hence a source of danger if these are left. Seeing the remarkable success that attended this operation, he was strongly of opinion that oöphorectomy for fibroids should be allowed to lapse into oblivion even in cases of small tumours, for oöphorectomy in these cases has a mortality of at least 5 per cent.

Mr. Butler-Smythe thought credit was due to Mr. Sutton for so clearly pointing out the additional risks attending the performance of the so-called pan-hysterectomy. These risks were not imaginary, but there was a real danger to the ureters, one or both of which might easily be cut across or included in the lowest ligature. His (Mr. Butler-Smythe's) ideas on the subject under discussion were so absolutely opposed to the views held by Mr. Sutton that he would like to ask him what the signs and symptoms were which would lead him to perform hysterectomy. In his opinion not one fibroid in twenty required removal, and he was now speaking of large tumours and not of those similar to the one exhibited that evening.

Dr. Griffiths entirely agreed with those who held that the intra-peritoneal method was the preferable operation. No one who had followed the progress of many cases operated upon by the two methods would hesitate to admit the greater freedom from suffering during convalescence and the general well-doing exhibited by patients after the intra-peritoneal operation. His conviction was that the operation of enucleation of fibroids in suitable cases with proper antiseptic methods was a very safe and preferable operation, leaving the patient with a perfect uterus as well as ovaries.

Dr. Heywood Smith said that in 1892 he read a paper elsewhere on "Sub-peritoneal Hysterectomy," which he contended described the operation better than intra-peritoneal. In it he brought forward cases by Goffe (New York) and Milton (Cairo), as well as some by himself, and he was glad to find the most advanced operators were pursuing that method to the exclusion of the serre-nœud oöphorectomy and so-called pan-hysterectomy.

The President said he had had an opportunity of declaring his views on the subject before them so recently—namely, in

the discussion which took place last year upon Mr. Harrison Cripps's paper—that he would not occupy more than a few minutes with his remarks on the present occasion. He agreed with Mr. Sutton in regarding the operation he had described as superior to that of so-called pan-hysterectomy. He also agreed as to the desirability of leaving if possible one or both ovaries. The trend of modern surgery was in the direction of removing nothing that could be avoided and in sparing wherever possible, both in male or female, one or both of the essential organs of reproduction in operating for diseases in which those organs were involved.

Mr. Bland Sutton, in reply, expressed amazement at the singular course the discussion had taken. He never for a moment anticipated that the horrid clamp would find a single supporter. The clamp in the treatment of hysterectomy was doomed, and he ventured to predict that in five years' time no operator would be found unwise enough to advocate its use. In regard to the wound he said a yielding cicatrix after any form of abdominal operation in which the wound was secured by a single row of sutures, was in a certain proportion of cases inevitable.

OBSTETRICAL.

THE ORIGIN OF EXTRA-UTERINE PREGNANCY. By P. STRASSMANN, Berlin. *Berliner kl. Wchschr.*, 1897, No. 36, p. 776.

From the facts now known of the meeting place of ovum and sperma, the author concludes that pregnancy is always extra-uterine at its commencement. The advance of the impregnated ovum may be impeded by the effects of perimetritis especially, or by developmental or structural abnormalities of the tube, or the ovum may itself have become too large to enter the uterus; the consistency of the ovum is likewise an important matter. The implantation of an ovum in the stage of chorion formation may happen, and at a sound spot in the tubal epithelium induce syncytial transformation, and the growth of villi to nourish the ovum.

SIALORRHOEA CURED BY THE REDUCTION OF A GRAVID RETROFLEXED UTERUS. By AUDEBERT, Bordeaux. *Sem. méd.*, clxx., Sept. 15, 1897.

I.-para, endometritis (infectious), retroflexion, again pregnancy, pytalism, third month emaciated, 800 grms. a day besides what swallowed; retroflexion of gravid uterus reduced without chloroform in genu pectoral position. Pytalism rapidly diminished; ceased after three days. Normal delivery at term.

ŒDEMA ACUTUM CERVICIS PARTURIENTIS. By HANS MEYER, Zurich. *Centralbl. f. Gynäk.*, 1897, No. 35.

In a multipara of 40, this rare complication, first described by Guéniot in 1872, formed a tumour as large as the fist protruding from the genitals, and had been mistaken for a prolapse of the afterbirth or a fibrous polypus. Meyer terminated the labour by forceps, and in twenty-four hours the œdema had completely disappeared.

PROCHOWNIC'S REGIMEN TO SECURE SMALL CHILDREN FOR CONTRACTED PELTS. By LEUSSER, Kissingen. *Munch. med. Wchnschr.*, 1897, No. 30, s. 830.

It is found by experience that the fœtus does not begin to put on fat till the last months of pregnancy, and it is therefore for the last eight or ten weeks before delivery that Prochownic, in 1889, recommended that in order to restrict the size of the child, a mother with a contracted pelvis should be given a diet poor in fat but rich in albumen. If so the fœtus remains of about the same weight it had when the diet was begun, and its strength is not impaired. This method Prochownic had found to secure a remarkably easy course of labour in three cases of contracted pelvis. Leusser adopted it in a woman who had had nine very difficult labours, and by means of Prochownic's method for ten weeks before the delivery, secured a very meagre but perfectly developed child, which was born in two hours.

THE IMPORTANCE OF THE BACTERIUM COLI IN OBSTETRICS—TYMPANIA UTERI AND SAPRÆMIA. By GEBHARD. *Zeitsch. f. Geb. u. Gyn.*, xxxvii., 3.

The author has collected thirty-five cases of tympania uteri, including those previously published. In eighteen of these the presence of the bacterium coli was demonstrated, in the other seventeen the results of culture were doubtful or negative, and he believes that the most common cause of tympania uteri is this micro-organism infection taking place either by transmigration, either independent through the capillaries, or by the examiner's finger. On the other hand he believes that the anærobic bacilli are of still greater importance in the so-called putrid emphysema, such as occurs in general putrid infection. From the blood of two cases of this kind he got cultivations of the bacilli which were pathological for mice, and induced subcutaneous emphysema at the place of inoculation.

UTERINE CARCINOMA AND PREGNANCY. By OLSHAUSEN. *Zeitsch. f. Geb. u. Gyn.*, xxxvii., 3.

Olshausen summarises the lessons taught by his own experience and that of others as follows:—If the fruit of the womb

be not viable, the interest of the mother alone has to be considered, and if the radical removal of the new growth be still possible, up to the end of the sixth month Olshausen recommends vaginal total extirpation of the uterus, the waters being first drained away. If the entire uterus is too large for this, it must be emptied and then removed by the vagina.

When the carcinoma can no longer be completely eradicated, the interference must be in favour of the child, and therefore eventually may demand conservative Cæsarean section at the commencement of spontaneous labour. If when the patient is first seen the child is already viable, the carcinoma still operable and labour begun, delivery should be completed in the way most sparing to the mother, and should Cæsarean section be necessary, the uterus should be stitched up after removal of the placenta and without amputation at the cervix be extirpated *per vaginam*. Abdominal extirpation can only in special cases be substituted for vaginal.

NEPHRORRHAPHY DURING PREGNANCY. By MERKEL (of Nürnberg). *Munch. med. Wochens.*, August 3, 1897.

Merkel was consulted by a woman of 29, who for two years had had more or less continuous abdominal pain, which commenced with an acute attack which lasted for two days, and included two others lasting nearly three; the last fourteen days before her admission was the worst and drove her to seek advice. Nausea, vomiting, distension of the abdomen and obstipation. Urine free from albumen and sugar. A movable tumour as large as the palm of the hand, easily displaced backwards, but returning at once to its position, was found in the left hypochondrium, and was diagnosed as a floating kidney, and the three acute attacks as due to tension and traction of the ureter. Though she was four months pregnant, on December 2 the kidney was secured to the m. sacro lumbalis by four stitches; two of these were removed on the sixth day, on account of symptoms suggesting general peritonitis, but she improved on the seventh, and in spite of a lymphatic fistula which ultimately healed, she continued to get well; from the fifteenth no bad symptom. Discharged cured, February 20, 1897. Pregnancy not interrupted. J. J. M.

DEATH OF FÆTUS IN UTERO FROM GUNSHOT WOUND. RECOVERY OF THE MOTHER. By S. W. ROBINSON, M.D. *Lancet*, October 23, 1897.

A woman, aged 18, was pregnant eight months. She was accidentally shot in abdomen at a distance of three metres. There was no bleeding from the external wound, situated a

little to the right and below the umbilicus, but some extravasation of a liquid which was considered afterwards to be amniotic fluid. No signs of collapse. Labour set in one hour afterwards, but the pains were feeble, so that about fifteen hours later forceps were applied. Sharp hæmorrhage followed delivery, and on the hand being passed into the uterus, an opening in the anterior wall could be felt, with a part of the membranes prolapsed and held tight in the same. This portion was allowed to remain and the uterus was washed out with hot creoline lotion. She made an uninterrupted recovery. The bullet passed through the fœtus (entering at the right shoulder and emerging in the left iliac region), and was found in the uterine blood-clots.

THREE CÆSAREAN SECTIONS ON THE SAME PATIENT. By VAN DE POLL. *Centralbl. f. Gynäk.*

The patient had a small flat pelvis, with a conjugate diameter of $2\frac{1}{2}$ in. Her first three pregnancies resulted in intra-uterine death of the fœtus, with their expulsion in a macerated condition. On February 12, 1886, being pregnant with a full-time fœtus, Cæsarean section was performed by Professor Van der Mey, and a living female child born. On September 25, 1888, Professor Mey in a similar manner delivered her of a male child. The operation on this occasion was complicated by strong vascular adhesions between the anterior uterine wall and abdominal parietes. Seven and a half years later, February, 1896, being again pregnant at near full time, Cæsarean section was performed by Dr. Van de Poll. On this occasion the adhesions between the uterus and the abdominal wall were so extensive, and involved so much destruction of tissue, that it was deemed advisable to remove the uterus by Porro's method. The pedicle, however, was treated intra-peritoneally, and a portion of the abdominal wall, including the old cicatrix, was removed. The patient made an excellent recovery, and suckled the child.

SYMPHYSIOTOMY, FROM THE GENERAL PRACTITIONER'S POINT OF VIEW. By J. BRAITHWAITE, M.D. *Quarterly Medical Journal*, vol. v., part 2.

Dr. Braithwaite maintains that there can be no doubt that the operation of symphysiotomy answers its purpose, and that by it the lives of infants can be preserved, whilst it is practically without danger to the mother. In three cases of his own all the mothers recovered, and two of the three children. He then describes the operation in detail, in order to prove his further contention that it comes within the range of operations which can be performed by the general practitioner, and advises that neighbouring doctors should keep a set of instruments (in common) ready, seeing that such are emergency cases, and that there must often be no time for summoning a specialist.

TREATMENT OF ECLAMPSIA. By CHARPENTIER. *Annals of Gyn. and Ped.*

Dr. Charpentier draws the following conclusions:—

(1) Every pregnant woman with albumen in her urine being exposed to attacks of eclampsia, the milk diet giving splendid results against the albuminuria, and in particular that met with in pregnancy, the urine of pregnant women should be examined with the greatest care, and, if the presence of albumen is ascertained, no matter how small it may be in quantity, an absolute and exclusive milk diet should be instituted. This is the preventive treatment *par excellence* of eclampsia. In cases in which œdema is present without albuminuria, it is well, if not an absolute necessity, to prescribe the milk diet.

(2) If the patient is strong and vigorous and cyanosis is present, he begins by venesection, 200 to 300 grammes being drawn, followed by chloral. Milk is then administered by the mouth and, if necessary, through a sound.

(3) The attacks themselves are opposed by inhalations of chloroform, and diuresis is encouraged by subcutaneous injections of artificial serum.

(4) If the woman is delicate, the cyanosis not very marked, and the attacks not very frequent, chloral should alone be given.

(5) The physician should wait until the labour occurs spontaneously, and should allow it to end without intervention every time that this is possible.

(6) If labour come on spontaneously, but does not end because the uterine contractions are too feeble or too slow, he should end the labour by forceps or version, followed by extraction, if the child is living, or by a cephalotripsy, basiotripsy, or cranioclasty if the child is dead.

(7) Before an intervention he should wait until there is complete dilatation, or at least a dilatability of the cervix, in order that the operation may be done without danger—that is to say, without violence, and consequently without danger for the mother.

(8) Induced labour should be reserved for a few exceptional cases.

(9) Cæsarean operation and *accouchement forcé* should be absolutely rejected as current methods in the treatment of eclampsia.

SERUM TREATMENT OF PUERPERAL INFECTION. By F. W. N. HAULTAIN, M.D. Ed. *Edin. Med. Jour.*, Aug., 1897.

After giving the details most carefully of these cases, Dr. Haultain summarises the present position of serum treatment as follows:—

(1) The benefits of the serum treatment of puerperal infection cannot, as yet, be said to be proved, although it gives promise of much value. The proof practically rests in the demonstration of its bactericidal as well as its antitoxic properties.

(2) It should be adopted early, and be continued after the grave symptoms have subsided.

(3) Its value is apparently diminished in mixed infections, although in these cases it is not to be considered useless.

(4) In no case should treatment be confined to the serum injection. It must be associated with local applications, such as uterine douching and curetting, and free general stimulation; also, if need be, with induced hyperleucocytosis, by the injection of nuclein.

(5) If possible, in all cases a culture diagnosis should be made to assist in furthering scientific investigations from a clinical standpoint.

HÆMORRHAGE FROM INCOMPLETE ABORTION. By Dr. JELLETT.
Dub. Journ. Med. Sc., May, 1897.

Dr. Jellett maintains that when hæmorrhage is frequent during pregnancy uterine exploration should be adopted—(1) If the patient has lost so much blood that we fear the results of further loss; (2) If a known portion has been expelled, and the remainder is retained *in utero*; (3) If the ovum be manifestly dead but not expelled.

To arrive at a correct diagnosis, whether the case be one of “threatened,” “complete,” or “incomplete” abortion, is to be determined:—(1) By the nature of the mass expelled from the uterus; (2) The continuance or cessation of the hæmorrhage, the former being absolutely indicative of imperfect expulsion; the latter, however, cannot be considered proof of complete expulsion; (3) The shape of the cervix. “This is altered according to the state of the dilation of the internal and external os. In ‘threatened’ abortion the internal os is usually dilated more than the external, shown by the widening of the cervix at its base. When the ovum has been expelled completely the external os is more dilated than the internal.” F. F. S.

COMPLETE OCCLUSION OF THE GENITAL CANAL DURING PREGNANCY. By MEYER (Hans), Zurich. *Centralbl. f. Gynäk.*, 1897, No. 34.

In a IV.-para, at the normal end of pregnancy, the cervical canal was completely closed by a smooth, tense and uniform membrane, 2 mm. thick, in immediate contact with the presenting head. The vagina was remarkably short and no os could be felt. After free incision of the structure a live child was delivered by the forceps. The occlusion seemed to be due to vaginitis adhesion, as the membrane consisted of two layers, the internal having arisen from the cervical canal, while the external presented the character of old false membrane.

MEDICAL PREPARATIONS, APPLIANCES, ETC.

BENGER'S FOOD.

WE have been so often indebted to Messrs. Benger for having presented to the profession and the public this most excellent preparation, that though it must be familiar to most its value cannot be over-estimated or unduly pressed upon all who have to deal with gynæcology. With regard to the infants, invalids and aged generally, for whom it is strongly recommended, we are not so immediately concerned, though by inference and some experience we should be quite inclined to believe all that has been said in favour of this food. But we would here venture to emphasise its extreme value as an early form of nourishment in that period after severe abdominal operations when the surgeon is most anxious to avoid the double danger of, on the one hand, too little nourishment, and on the other injudicious feeding. Beef-teas—concentrated or otherwise—may at such times have their friends, but they also have their enemies, while a food such as this can be employed with the greatest advantage in most cases. By administering it in teaspoonful doses of a diluted strength, most patients are able to digest it at a very early stage after the post-operation sickness has passed off; and though the taste is at such times vitiated, we have found it to be more appreciated than most other forms of nourishment. At such times it is so important from the medical point of view that such an easily digested and absorbable food should be available, and it is because we have been so persuaded of its value on these occasions that we are confident it must be equally so to other and divers conditions of invalidism.

SURGICAL SHIRTS AND SURGICAL GOWNS.

THESE garments, which, we understand, are patented, are cut in the shape of an ordinary night-shirt, but differ from that article in having several other openings besides those usually found. The usual lateral slits are extended upwards, so that the surgeon, by

raising the anterior flap, may get at the abdomen without disturbing the patient at all; these slits are made to button. There is a similar opening in the back, and the sleeves can also be unbuttoned right away up to the neck to suit cases of arm injury. Undoubtedly such shirts would be very much more easily put off and on, in any position, than any we know of in all cases of illness, besides those due to injuries. We are a little uncertain as to whether the numerous buttons would not be objectionable, and wonder whether tapes could not be substituted.

Messrs. Weiss, of 287, Oxford Street, W., are the agents.

MESSRS. BURROUGHS AND WELCOME'S PREPARATIONS.

Messrs. Burroughs and Welcome have drawn our attention to the fact that the word "tabloid" was used on pages 257 and 258 of our August issue in a summary of an article entitled "Changes after Operative Removal of the Ovaries, and likewise after Natural Atrophy of the Ovaries in Old Women." This summary was taken from the *Münchener Medizinische Wochenschrift*, and we are not at the moment able to give the original German, for which this word was used. In using the expression, however, it is clear that we employed one to which we had no right, since the word "tabloid" is "an original coined word or brand" of Messrs. Burroughs & Welcome, specifically designating certain goods manufactured by them. We are much obliged to this firm for so courteously drawing our attention to the fact. We have all become so accustomed to their preparations, that no doubt considerable looseness of expression has arisen, and we are apt to call all compressed drugs tabloids. We understand that the words "compressed pellets" would properly describe those somewhat similar preparations which are not Messrs. Burroughs, Welcome & Co's.

They have recently added some new *Soloids* to their list, which should appeal to gynæcologists. We have had an opportunity of testing three of these, and there can be no doubt that they will be welcomed on account of their extreme convenience and portability. (1) Soloid of zinc and tannin contains: Zinc sulphate 5 grs., lead acetate 10 grs., extract of opium 2 grs., tannin 1 gr. (2) Soloid sodium biborate compound contains: Sodium biborate 20 grs., opium tincture 10 min.; and (3) Soloid alum compound contains: Zinc sulphate 15 grs., alum 15 grs. These formulæ are so frequently made use of in gynæcological work for douches, &c., that the Soloids must commend themselves to all.

ANATOMICAL LECTURE DIAGRAMS. (MESSRS. JOHN BALE, SONS,
& DANIELSSON).

These diagrams, twelve in number, are 2 feet long and 1 foot broad, and represent in a very clear and diagrammatic form the various essential points of the human figure. No. 1 shows the human skeleton, front and back ; No. 2, the abdominal and thoracic viscera *in situ* ; Nos. 3 and 4, the muscles ; No. 5, the circulation ; No. 6, the heart and lungs ; No. 7, the nervous system ; No. 8, the bones of hand and spine ; No. 9, the ear, eye, nose, &c. ; No. 10, the stomach, liver, spleen, brain, &c. ; No. 11, some types of fractures ; No. 12, the three lower actions of muscles.

They are all very clear, but some appeal to us more than others, and perhaps Nos. 4 and 5 showing the muscular distribution we ourselves would specially pick out.

They are published at a very moderate price and can be obtained in various forms. Of course this size would not be the most suitable for demonstration to a large class, and with that idea in view lantern slides of each have been prepared, and can be obtained from the same firm.

NEW BOOKS &c., RECEIVED.

(Besides exchangeable Journals.)

- Annual of the Universal Medical Sciences Sajous, vols. 1-5. F. A. Davis Co., New York.
- Diseases of Women. By J. Bland Sutton, F.R.C.S., and A. E. Giles, M.D., F.R.C.S. The Rebman Publishing Co., London.
- Lawson Tait's Perineal Operations. By McKay. Ballière, Tindall & Cox, 20, 21, King William Street, London.
- Rheumatism and its Treatment by the use of the Percusso-Punctator. By J. Brindley James. The Rebman Publishing Co., Strand.
- On the Synthesis and Molecular Constitution of Dead and Living Proteid. By P. W. Latham, M.A., M.D. Deighton, Bell & Co., Cambridge.
- The Position or Posture of the Patient during Parturition, with special reference to the merits of the Walcher position. By Andrew F. Currier, M.D., of the New York City. From the *Medical News*, March 7, 1897.
- Ventral Hernia resulting after Abdominal Section, and its treatment. By Andrew F. Currier, M.D., New York. Reprint from July number, vol. x., *Annals of Gynecology and Pediatrics*, Boston, 1897.
- Sonderabdruck aus der Viertel Jahrsschrift f. gericht. Medicin u. öffentlichen Sanitätswesen. von Dr. F. C. zu Schmidt. Kreiswundarzt in Coblenz.
- Centralblatt für Chirurgie herausgegeben, von E. von Bergmann, F. König, E. Rechter.
- Centralblatt für Innere Medicin.
- Kilka Stow. O. Mezheim Owlosienin u. Kobiet oraz hiektoryeh innyeh anomaliach owlosienia i rozwojm golnego podal. Dr. Med. Fr. L. Neugebauer, Druk K. Kowalewskiego Mazowiecka, Warszawa.
- El mejor Pwcedimiento de Histeretomia Abdominal. D. Miguel A. Fargas. *Administracion de los Anales de Obstetricia*, Madrid.
- A Manual of Obstetric Practice. By Prof. Dührssen (translated by Taylor and Edge). H. K. Lewis, 136, Gower Street, W.C.
- Recurrent Gall Stones, Angioma of Spleen, Excision of Cæcum. By John Homans, M.D., Boston, Mass.
- Case of Esthiomenic Menstrual Ulcer of the Nose, its treatment and cure. By H. Macnaughton-Jones, M.D., M.A., F.R.C.S.I. and Ed.
- Om de Papillaere, Ovarial Kystomer. Af Oscar Keint. Kristiania Steenske, Bogtrykkeri, 1896.
- La Pratique des Accouchements a L'Usage des Sages Femmes. Par G. Badin et E. Crowzat, Octave Doin Editeur, Paris, 8, Place de Lodeon.
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THE BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, NOVEMBER 11, 1897.

PROFESSOR MAYO ROBSON, F.R.C.S., PRESIDENT, IN THE CHAIR.

PRESENT : 34 Fellows and Visitors.

The following gentlemen were proposed for election :—
Charles Ryall, F.R.C.S., London ; W. J. Cameron, M.B.,
Balham ; E. G. Emerson Arnold, M.B., B.S., London.

Dr. MACNAUGHTON-JONES, regarding the case of fibroid cancer, read the following pathological report on the specimen which he showed at the previous meeting :—
“ The section of the wall of the uterus presents a columnar-celled carcinoma, invading the muscular substance of the organ. The tubular arrangement of the cells is not well preserved except at the growing margin. The remainder consists of solid branching columns of epithelioma. A section of the cervix uteri is found to be free from new growth. But here, as well as in the body of the uterus, the muscular coat shows much inflammatory infiltration between the bundles of muscle fibres.

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SPECIMENS.

MYOMA UTERI REMOVED BY PAN-HYSTERECTOMY. By
TENISON COLLINS, M.R.C.S.

Mrs. M., aged 34, was seen by me in consultation with Dr. J. W. D. Morris, of Cardiff, in August last. She had had two children previously ; after the birth of the first one Dr. Morris, from the size of the uterus, thought there was a second foetus, but examination proved this not to be the case, and he concluded there must be some uterine growth. In the course of the month following delivery the tumour gradually diminished in size and practically disappeared. The same condition occurred in connection with her second confinement. In July last she miscarried at three months, but the abdominal enlargement continued to increase and the patient thought she was still pregnant. When I saw her I found a large uniform swelling of the uterus consistent with a six months' pregnancy. The cervix, however, was small, hard, and the os normal. I therefore dilated the uterus and found the cavity empty, but an interstitial uniform growth, chiefly of the posterior wall, soft and œdematous in character.

In November menstruation had recurred three times and was prolonged. The tumour had increased in size and I therefore performed pan-hysterectomy, kindly assisted by Mr. Bowreman Jessett. The removal of the uterus took thirty-five minutes, but troublesome hæmorrhage from large veins in the broad ligaments much delayed the completion of the operation. Both ovarian and uterine arteries were safely ligatured. The patient is so far progressing favourably. The specimen is one of soft rapidly growing myoma, and its history shows the influence of pregnancy on these growths.

Later Note.—The convalescence was rapid and a month after the operation the patient was downstairs and feeling well.

TWO CASES OF MYOMATOUS UTERI REMOVED BY PAN-HYSTERECTOMY.¹ BY F. BOWREMAN JESSETT, F.R.C.S.

Case I.—E. S., aged 39, was admitted under the care of Mr. Jessett at the Cancer Hospital on March 3. Patient on admission complained of uterine bleeding.

Patient's Previous History.—Slight miscarriage eighteen years ago, shortly after marriage; was quite healthy up to twelve years ago, when she had a "tumour in the abdomen." It did not trouble her much, and she wore a belt which relieved her of any slight discomforts caused by its presence. It gradually increased in size up to three years ago, since when there has been no further increase. Menstruation, micturition, and defæcation not affected. Seven years ago and again four years ago was treated for "internal abscess" (patient's words) which discharged through womb.

History of Present Condition.—About one month ago began to pass a large quantity of blood and clots from vagina, accompanied by pain in epigastric and lumbar regions.

Present Condition.—Patient is extremely anæmic. Abdomen is occupied by a large, firm, irregular tumour, which extends right across the abdomen, passing one inch above umbilicus, higher on the right side than on the left.

Heart Sounds.—There is a soft, blowing, systolic murmur over base of heart (hæmic?). During March the patient suffered pain and passed clots. General condition unfavourable, so operation was postponed. On April 6, patient's condition more favourable; has not "lost" much past ten days; is still anæmic. Mr. Jessett, after consultation with other members of the staff, decided to operate. Abdominal hysterectomy was performed on April 6. Patient made excellent progress after operation, having no bad symptoms, and was discharged on May 20, and went to a convalescent home.

Case II.—C. R., aged 42, was admitted at Cancer Hospital on August 25.

¹ Read before the British Gynæcological Society, October 11, 1897.

Patient's History.—Has only just recovered from rheumatic fever ; there is, however, no organic mischief of the heart, although first sound is slightly prolonged and harsh. Has had only one child, which is now aged 20. She complains of partial amenorrhœa, and when her menstrual periods arrive she only has a very slight discharge, which only lasts a few hours. At this time she has pain in abdomen and breasts.

Present Condition.—The abdomen (lower part) occupied by a tumour, rising into left iliac fossa, and extending towards middle line. Examination painful, and tenderness on palpation in left iliac region.

Per Vaginem.—Bi-manually the uterus appears to be large. There is a round mass to be felt behind the uterus and to its left side ; this at first appears to be connected with the uterus, but on placing the patient in semi-prone position it moves independently of that organ. It feels either like a small ovarian or a cyst in left broad ligament.

October 3.—Mr. Jessett operated on the patient on this date. Abdominal hysterectomy performed. Specimen shows uterus with fibroid above ; between the two a deep groove is clearly seen. It is easy to see where uterine muscular fibres end and fibroid commences. Specimen is suspended in following fluid, prepared under direction of Mr. Plimmer, pathologist to Cancer Hospital. Its properties are such that all the colouring matter is retained. The process is called "Jorer's Method," and is described as follows :—

"Jorer's Method," as used at Cancer Hospital.

(1) Specimen is first rinsed in cold tap water, but only long enough to remove blood, mucus, or other secretions, from the surface.

(2) Placed in solution :—

Formalin	...	...	...	...	6 parts
Tap water	...	...	...	...	100 "
Sod. chloride	...	...	...	...	1 "
Sod. sulphate	...	...	...	...	2 "
Magnesium sulphate	...	...	...	...	2 "

Specimen in this solution must not touch sides of vessel. Specimen remains in this formalin solution about 48 hours.

(3) Specimen transferred to pure methylated spirit for 10 minutes.

(4) It should then be removed to fresh pure methylated spirit; here it should be carefully watched, as after about half an hour to one hour the colour will begin to fade.

(5) From the spirit No. 2 the specimen is immediately put into a mixture of equal parts of glycerine and distilled water, to which a small amount of pure formalin is added—an ounce to two or three, according to size of jar.

(6) Specimen is mounted in this mixture.

Remarks.—I venture to show these two specimens for several reasons. (1) They add two more to the successful list of pan-hysterectomies. (2) The second specimen is particularly interesting, as showing an interstitial myoma, growing and bursting through the uterine tissues into abdominal cavity. In fact, when the abdomen was opened, and the tumour and uterus delivered, the surface of the growth was roughish, and appeared devoid of peritoneum, and suspiciously malignant. (3) I am showing these two specimens to illustrate a method of preserving specimens so as to retain their colour introduced by Dr. Plimmer, the pathologist of the Cancer Hospital. I have done now twenty-six cases of pan-hysterectomy with three deaths; one in first five, one in next seven, and one in last fourteen.

LARGE MYOMATOUS UTERUS REMOVED BY ABDOMINAL
HYSTERECTOMY. By R. O'CALLAGHAN, F.R.C.S.I.,
F.R.A.M., &c.

Case I.—Mrs. H. was sent to me in May, 1897, by Dr. Clement Godson. She gave the following history:—Age 49. Owing to considerable loss she consulted Dr. Godson in 1893, for which he treated her successfully. For past three years she noticed a lump in her abdomen, which gradually increased until the last six months, when she

began to have great irritability of the bladder and frequent desire to micturate. Her periods became very profuse, lasting ten days to two weeks, and between these she had a constant watery discharge which required the continual use of a diaper. She presented a bloodless appearance, and was very weak.

On examination I found a large œdematous myoma rising as high up as the umbilicus, but uniform in growth, and about the size of a six months' pregnancy. I advised operation, and at once, as it was quite evident if she was left much longer in her existing condition operative interference would have been impossible. I did a hysterectomy on June 11, assisted by Dr. Clement Godson, Drs. Fagge, Scholtz, Messrs. Hurry Fenwick and Broomfield being present. The patient made an uninterrupted recovery, and left the home in five weeks already much improved in her health. This I consider one of the typical cases which justify such an irreparable mutilation as hysterectomy, and the risk which such a serious operation must always incur, and is in striking contrast to the many excuses which are now made for so-called total hysterectomy.

The PRESIDENT said there were two questions to be considered :—(1) Should we operate at all in some cases of myoma? (2) What operation should we do? There was room for much difference of opinion on both questions. He did not think every fibroid required removal, especially when of the hard variety. Some fibroids, however, were of rapid growth, and when serious symptoms arose, removal was the only course. In a third class the tumour grew after the menopause, and these also required removal. As regards the method of removal, he was quite satisfied with intra-peritoneal hysterectomy. His own plan was to leave the cervix, suture the peritoneum over it, and then bring the stump up to the abdominal wound and fix it there, shutting it off from the peritoneal cavity. This became practically an extra-peritoneal operation, as the stump was under the aponeurotic layer of the abdominal

wall, but outside the peritoneum. The other two methods were the intra-peritoneal proper, in which the stump was dropped back into the peritoneal cavity, and pan-hysterectomy. To the last method he was not as yet converted.

Dr. HEYWOOD SMITH asked why Mr. Collins did not do the intra-peritoneal operation ; it involved much less risk than pan-hysterectomy. Mr. O'Callaghan did not mention how he had finished his operation ; did he use the *serre-nœud* ?

Dr. GRANVILLE BANTOCK observed that he was not wedded to only one method ; for there was no royal road to the treatment of myomata, any more than to learning. Most of his experience had been with the *serre-nœud* ; but he had also done a good number of pan-hysterectomies. In the first case he did of this kind, many years ago, he tied both the ureters, which had become much displaced by the growth, and the patient died. Then for some time he employed the *serre-nœud* exclusively. In twenty-four cases recorded at the Rome Congress he had only had one death, in a patient with Bright's disease. When there was malignant disease involving the cervix, and when it was not possible to make a pedicle, he had removed the whole uterus. He quite agreed, therefore, that in some cases complete removal was the only possible course. But this was not the same thing as saying that pan-hysterectomy was the operation *par excellence*. A mortality of 3 cases in 26 did not satisfy him. It was true that in his first 100 cases he had 19 deaths, but the mortality had diminished in his second hundred, and still further in his third hundred. In the case of small fibroids he thought that the removal of the uterus was a great mistake ; in many cases a small tumour could be enucleated. Large tumours could not, as a rule, be treated by this method, because they were often separated from the uterine cavity by only a thin layer of endometrium, which was easily opened, a procedure which added greatly to the risks of operation. But with small tumours it was different.

Fibroids did not interfere with conception, with pregnancy, nor with labour. He could relate many cases where the patient went safely through labour with a large tumour, so he hoped that many of these operations would not be done. A recent text-book of gynæcology taught that hysterectomy was a safe and easy operation, and he wished to protest against such a view. In all cases it was an operation of some difficulty, and should be performed only by a skilled operator. In all the specimens shown there seemed to have been every reason for the operation being done.

Dr. C. H. F. ROUTH said that it was often impossible for the wisest man to say whether a case should be operated upon or not. He had seen cases in which men of eminence advised operation; he had opposed this view and his advice had prevailed, and the patients were living now. He agreed with Dr. Bantock that no operation should be done with a child *in utero*. Sims used to teach that a woman with a fibroid could not conceive, but this view was wrong. The President had remarked that in some cases a fibroid increased after the menopause; as for himself, he had seen many cases of fibroid, and not in one, as far as he could remember, was there any increase in growth after the menopause; therefore he doubted if that view were true, and it was certainly not true in his own experience.

Dr. PURCELL remarked that there were some cases in which it was imperative that the whole organ should be removed, viz., in cases in which the myoma presented malignant characters, and for these pan-hysterectomy was the only possible operation.

Mr. TENISON COLLINS, in reply to Dr. Heywood Smith's question, said that when he examined the patient it seemed to him that the growth began just above the cervix, and that it was a typical case for pan-hysterectomy. After removal the specimen showed that the intra-peritoneal operation would have been possible; but as the patient

was going on very well, he did not at all regret the course he had adopted.

Mr. O'CALLAGHAN, replying to Dr. Heywood Smith, said he used the *serre-nœud* in his case, as he intended always to do in a similar case. If Mr. Collins had employed this method he would not have been troubled with hæmorrhage from the broad ligaments. When pan-hysterectomy was performed for hæmorrhage, or for small fibroids, he regarded it as one of the most unjustifiable operations in surgery. The mortality had not been less than 12 per cent., whilst Dr. Bantock's present mortality was only 5 per cent.

ADJOURNED DISCUSSION ON MR. SKENE KEITH'S PAPER ON DYSMENORRHŒA.

Dr. MACNAUGHTON-JONES said the whole subject was a wide one, involving many questions of medicine, surgery, and therapeutics. Dysmenorrhœa had not usually the amount of attention given to it to which it was entitled. The first thing was to decide its cause. This was often very difficult. First, there were ovarian causes. Second, causes associated with the Fallopian tubes; here, again, there were several varieties. Third, uterine causes, with further sub-divisions. Finally, constitutional causes, which fell under these headings; first, toxæmia, chloræmia, and anæmia; and secondly, neuralgia and hysteria. For the present discussion it was necessary to eliminate all but the uterine causes; and of these they must limit themselves to those congestive cases classed by Matthews Duncan as "obstructive." Here they had to do with flexions associated with abnormality, and the train of symptoms described as neurasthenia. But even here a great difficulty presented itself, as cases occurred in which there was marked dysmenorrhœa, evidently dependent on the uterus, yet on examination this organ appeared normal, and the patient otherwise was in good general health. As regards the

justification of examination; if a patient came to consult them for dysmenorrhœa, after ordinary remedies had been tried in vain, it was their duty to make an examination. By refraining from doing so they might sometimes be led astray. Thus, an innocent-looking girl was brought to him by her mother and her doctor. After inquiring into her history, he was about to advise medicinal treatment, when the medical man urged that if an examination had to be made it should be done at once. He agreed, and found a patulous hymen and a uterine condition which resulted in her confinement at term six weeks later. With regard to the type of case dealt with in Mr. Skene Keith's paper, he did not believe in simple dilatation as a cure for the dysmenorrhœa, though it might relieve it for a time. He did not believe in tents. But if ovarian trouble could be eliminated, he advocated the kind of treatment referred to by Dr. Heywood Smith at the last meeting—viz., division of the cervix with scissors, free incision of the internal os with a Sims' knife, dilatation, and then the introduction of a small glass tent. This plan had for many years given him very good results, both for sterility and for dysmenorrhœa.

Dr. HERBERT SNOW observed that it had long been pointed out that the laws of nature, when reduced to their simplest terms, could be very simply expressed, and the same might be said of dysmenorrhœa. The condition resulted from imperfect development. From this point of view it was surprising what good results would often follow the mere removal of the stays or the substitution of a healthy kind for the detrimental forms commonly used. A course of massage, shower baths and proper feeding would often complete the cure.

The further discussion of the subject was then adjourned to the next meeting.

Dr. JOHN SHAW-MACKENZIE showed under the microscope some sections obtained from curettings in cases where malignant disease was suspected, and where, in fact, the

clinical aspect of the case was decidedly malignant. He believed them to be really instances of hæmorrhagic endometritis, and he had brought them forward to illustrate his paper on this subject, which was postponed till the next meeting. He also exhibited and compared sections of catarrhal endometritis with sections of adeno-carcinoma of cervix uteri.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, DECEMBER 9, 1897.

DR. GRANVILLE BANTOCK, VICE-PRESIDENT, IN THE CHAIR.

PRESENT : 30 Fellows and Visitors.

The following gentlemen were elected Fellows of the Society :—Charles Ryall, F.R.C.S., London ; W. J. Cameron, M.B., Balham ; E. G. Emerson-Arnold, M.B., B.S., London.

H. Jellett, M.D., Dublin, was nominated for the Fellowship.

SPECIMENS.

Dr. R. D. PUREFOY, Dublin, showed : (1) A myoma of the uterus, removed by pan-hysterectomy ; (2) A myoma of the uterus, removed by myomectomy ; (3) Ruptured tubal pregnancy, partly coincident with uterine pregnancy ; (4) A fibroid uterus, removed by *morcellement* ; (5) A dermoid cyst, removed by vaginal colpotomy.

Dr. F. EDGE, Wolverhampton, showed : (1) A myomatous uterus, removed by pan-hysterectomy ; (2) A double hydro-salpinx. Both patients recovered.

Under the care of ROBT. T. A. O'CALLAGHAN, F.R.C.S.I.,
F.R.A.M., &c.

Case I.—Vaginal Hysterectomy for Epithelioma of Cervix.
—Mrs. M., aged 36, was brought to me by Dr. James Donelan in February with a history of inter-periodic losses since February, 1896, but during the previous three months bleeding had become profuse, and seldom absent, which necessitated constant wearing of diaper. She also had great irritability of the bladder. On examination I

found the uterus fixed on left side and a small growth protruding from cervix, which bled freely, but no fœtor from the discharge.

Before giving definite opinion I curetted the uterus and removed the growth under ether next day, which Dr. Donelan had microscopically examined and pronounced to be epithelioma. Dr. Granville Bantock saw her in consultation with Dr. Donelan and myself on March 10, to decide upon the advisability of further operation. I pointed out the marked infiltration of left broad ligament with the disease and slight cachexia.

Dr. Bantock held, however, that the patient would be more comfortable after operation, though holding out no hope of prolonged life. She decided upon operation, and I removed the uterus with great difficulty owing to advanced disease, as you will see by the specimen. The left broad ligament gave much trouble, being very friable, and the ligatures cutting through time after time; also the bladder wall was fixed, and required very careful handling. I had the invaluable assistance of Dr. Bantock in the most difficult case of the kind I have experienced. The bladder gave some trouble for ten days, but otherwise convalescence was uninterrupted, and the patient left for the seaside in a month.

Case II.—Removal of Appendages for Double Pyo-Salpinx.
—Miss M., aged 22, was a patient of Dr. Morgan Richards, who attended her a year previously for an attack of acute peritonitis. She sent for me in September, 1897. I found her suffering from localised peritonitis of left side, with a temperature of 102° and considerable pain. On vaginal examination, which was very painful, I found acute tubal mischief with cystic disease of left side and marked tubal disease on the right side. The uterus was completely fixed. Dr. Granville Bantock saw her with me ten days afterwards, when, by suitable treatment, the temperature was going down, and he agreed with me that the only treatment advisable was complete removal of the appendages, which were utterly useless and a source of great danger to life.

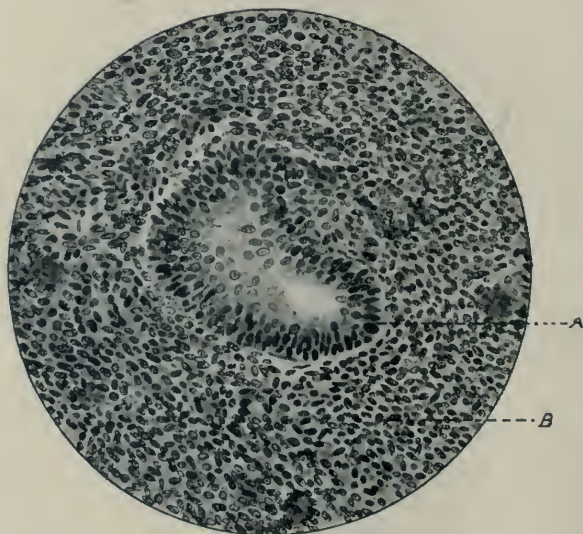
The patient drifted away, and after consulting nearly every specialist in London returned to say that the general consensus of opinion was against operation. After examination again I reiterated my previous views and advice, and said that when she came and told me that she wanted the operation I would do it, as I knew that time would force it upon her.

She then consulted Sir John Williams, and this most conservative of consultants agreed with the necessity of operation. This advice, combined with another acute attack of pain and rise of temperature, sent her back to me, and I removed the appendages (which you see) with the greatest difficulty; the cyst in left ovary was ruptured in trying to extract it. Both tubes and ovaries were embedded in a mass of old adhesions, and were very hard to bring up and tie off. Dr. Bantock gave me his kind and invaluable help in this case, Drs. Richards and Woods also being present. I washed out the abdomen with water at a temperature of 110° , and drained with Bantock's glass tube, which I removed on the third day. The patient made an uninterrupted recovery and was up in three weeks.

I have much pleasure in selecting these three cases from my year's work to show to the Fellows of our Society, because I think they are both interesting to the surgeon and to the practitioner, and are undoubtedly cases which demanded operation.

Dr. F. EDGE, referring to Mr. O'Callaghan's first case, said that some time ago he removed the uterus in a woman of 65 for cancer of the fundus. The fundus itself was as soft as brain substance, so that the finger could easily be pushed through it. The broad ligament was difficult to get at, but he managed to secure it by the use of Doyen's clamps. He would recommend these in cases where the tissues of the broad ligament were so friable as to readily cut through on applying the ligature, as in Mr. O'Callaghan's case.

Fig 40



HÆMORRHAGIC ENDOMETRITIS (high power).

A. —Swollen gland. Irregular outline.

B. —Inflammatory cell proliferation of matrix. Blurred vessels in field.

ON HÆMORRHAGIC ENDOMETRITIS. By JOHN A. SHAW-MACKENZIE, M.D.Lond.

MR. PRESIDENT AND GENTLEMEN,—During the past few years I have had opportunities of examining a good number of curetted fragments from the uterus.

In many cases, *e.g.*, blood clot, decidual remains, simple catarrhal endometritis, and advanced malignant disease, microscopical appearances present little difficulty in differential diagnosis. Moreover, the clinical history is often so conclusive that the microscope is hardly necessary as an aid in the diagnosis. In other cases the clinical symptoms are often uncertain, the microscope is appealed to, and this may or may not settle the diagnosis and future line of treatment.

In curetted fragments, in my experience, the differential diagnosis microscopically between endometritis, simple adenoma, and commencing malignant disease is sometimes extremely difficult.

I thought it might be of interest if I submitted to you microscopical curetted sections of the uterine mucosa illustrating some of these difficulties from two cases in which the bleeding was profuse, persistent, and rebellious to all treatment short of hysterectomy, and in which I had been asked to report on previously to operation, as well as consider the differential diagnosis, and some of the clinical causes of hæmorrhagic endometritis.

Case I.—A tablespoonful of soft warty fragments, about the size of a pea, were curetted from the uterine cavity of an elderly lady, and kindly sent to me to examine and report upon by Dr. Bantock. As the hæmorrhage in no way ceased, and the patient was losing ground, Dr. Bantock successfully performed vaginal hysterectomy. The uterus is enlarged, the mucous membrane is raised in patches, ecchymosed, and velvety (though the specimen has now been in spirit for a long time, and consequently these appearances are not well seen). The internal wall of the uterus itself is of almost stony hardness, and microscopic

sections show marked fibrosis, which corresponds to that gristly sensation which the internal surface of the uterus often presents to the curette. Sections taken through the depth of the mucous membrane of the uterus, hardened in Müller's fluid, cut with a freezing microtome, stained with logwood, and examined under the microscope, show that the glands are enlarged and irregular in outline, the columnar epithelium swollen, and the wall of the glands infiltrated with a round-celled proliferation, which is also seen in abundance between the glands, and forming the chief part of the matrix of the mucous membrane. These cells are nucleated, indicating an extensive and rapid cell proliferation, and there is no marked evidence of fibrillation, or that arrest of process which is seen in ordinary connective tissue inflammation. The glands are numerous, but it is difficult to say if they are multiplied, or their columnar cell lining reduplicated, or simply infiltrated with leucocytes. The vessels are large and numerous, and free hæmorrhages are seen in the cellular matrix. A microscopic section submitted to a skilled pathologist, without informing him of the tissue, was pronounced to be columnar cancer. Four years later the patient was in excellent health.

Case II.—Mr. Skene Keith kindly asked me, on March 10, 1897, to examine and report on some fragments he had curetted from the uterus of a lady, aged 52, who had suffered from excessive uterine bleeding. For six years she was losing ground, and in no way benefited by medication or by this curetting. Five years ago she had been curetted by a hospital physician without benefit. The os admits tip of finger, and the uterus is enlarged ; pulse 108, feeble.

Vaginal hysterectomy was successfully performed by him on March 20, and in October, when last seen, the patient was quite well.

The uterus is very much the same as in Dr. Bantock's case. The internal surface is very hard, rough, and ecchymosed, and the microscopic appearances are also similar.

In connection with these two cases I would refer to

a similar case which was reported in the *British Medical Journal* of February 25, 1893, by the late Sir Spencer Wells, who at a subsequent period kindly gave me the uterus, with permission to make use of it in connection with any associated cases.

Case III.—In 1879 Sir Spencer Wells amputated the elongated and enlarged cervix of the uterus in a married lady, who had supposed papillomata or epithelioma. Examination of the part removed proved it to be an adenoma, or simple hypertrophy of the utricular glands. In 1880, a year after, the cervix showed some tendency to proliferate, and Sir Spencer Wells destroyed it by the actual cautery. For seven years subsequently she remained in wonderful health. In 1888 her ovaries and tubes were removed for pyosalpinx by Mr. Lawson Tait, and shown at this Society. Notwithstanding this, hæmorrhage became excessive at every period and, towards the end, severe, constant, and dangerous. More than once she appeared to be dying, in spite of injections into the uterine cavity and plugging the vagina, while ergot was taken freely. In September, 1881, she went to Spa, in hopes that she might regain strength; but in spite of constant and skilful attention from Dr. Cafferata, it was very doubtful whether she would be able to travel towards the Riviera. Sir Spencer Wells wrote suggesting to Professor Freund that extirpation of the entire uterus might be the only way to stop such repeated and alarming bleeding; but Professor Freund thought it better not to do more than dilate the cervix and use the curette freely. This he did with some temporary benefit, but alarming bleeding returned while she was under the able care of Dr. Schetelig, of Nervi. She became so pallid and exhausted that death was more than once expected, and it was feared that she could not survive another flooding. Vaginal extirpation of the uterus was then agreed upon, after full consultation, and the operation was performed in Genoa by Professor Ceci, in July, 1892, but after at first rallying she sank on the tenth day.

The uterus was sent to Sir Spencer Wells, and submitted to Dr. Sims Woodhead for examination and report, which accompanied Sir Spencer Wells' communication in the *British Medical Journal*. My own microscopic sections of this uterus are even more pronounced than seen in the coloured drawing of Dr. Sims Woodhead, taken from the cervix, and illustrated in the *British Medical Journal*.

The differential diagnosis in all these cases appears to lie between advanced and chronic endometritis, simple adenoma, sarcoma, or adeno-carcinoma.

The condition is not that of early or simple catarrhal endometritis, a microscopical section of which I submit, curetted from the uterus of a young married lady by Mr. Skene Keith, in which the utricular glands are almost normal in size and number, regular in outline, and the cell proliferation of the interglandular matrix not well marked.

Between simple and malignant adenoma, *i.e.*, adeno-carcinoma, the decision is difficult.

If the glandular layer of the mucosa is simply increased and the columnar lining of the uterine glands single, we have numerical hypertrophy, or hyperplasia of the simple adenomatous type.

If the columnar arrangement invades the uterine wall, or the lining cells of the utricular glands are reduplicated, more or less filling the lumen, and in advanced cases infiltrating the interglandular matrix, we have malignant adenoma or columnar cancer, *i.e.*, adeno-carcinoma.

But in curetted fragments it is impossible to say if the uterine wall has been invaded, nor is the reduplication of the glandular lining cells always evident in early disease, though in some cases we may find isolated glands stuffed with epithelial cells, which completely occlude the lumen.

Again, what is the nature of the intercellular matrix?

Messrs. Hart and Barbour, in their "Manual of Gynæcology," Edit. 3, p. 310, state that "The hæmorrhagic type of endometritis may readily be mistaken for sarcoma uteri, because it spreads in a diffuse manner, pre-eminently

causes hæmorrhage, produces pain not at all, or only late. (Olshausen.) The microscope, however, settles the diagnosis.

"Care must be taken not to mistake the small-celled infiltration of the tissues for round-celled sarcoma."

Some curetted fragments very readily show normal mucosa with commencing new growth, and epithelial invasion of matrix. In them it is easy to contrast the larger epithelial cells, from the inflammatory cell proliferation of the matrix, but other sections do not show normal tissue alongside of new growth, and it is not easy to differentiate epithelial or sarcomatous cells from inflammatory when seen alone.

Here, too, I might emphasise the fact that the epithelial proliferation does not always follow, especially in rapidly growing adeno-carcinoma, the parent columnar lining cells of the utricular glands; indeed, the multiplication of epithelial columnar cells is, in my experience, rarely seen, and the proliferating epithelial cells are spheroidal and compressed.

With the uterus before one, and with the advantage of microscopic examination and many microscopic sections, it is a different matter altogether, and it is easy to arrive at a positive and differential diagnosis. In the especial cases I am considering to-night, the pathological condition is, I am inclined to think, one of very chronic inflammation showing no tendency to fibrillation or arrest of process.

There is undoubtedly hyperplasia of the glandular layer of the mucosa. I cannot, however, satisfy myself that the uterine wall is invaded, or the lining cells of the utricular glands reduplicated, while the large amount of interglandular cell proliferation of matrix is in favour of a marked inflammatory condition, much in advance of simple endometritis, and from the general diffusion of cells not sarcomatous.

I would feel myself inclined to place this condition between the benign and malignant, a condition which I

believe it is acknowledged may pass into adeno-carcinoma in some cases by a process of gradual transition.

It will be observed that I have spoken of invasion of the uterine muscular wall. Naturally in early stages of disease this is not manifest, and when proliferation takes place inwardly and in early stages there may be nothing more than isolated warty patches on the surface of the internal wall of the uterine mucosa. But when the proliferating masses project into the uterine cavity or from the cervical canal, there is less difficulty in distinguishing the epithelial proliferating columnar arrangement, round or spindle-celled sarcoma, from simple adenoma, papilloma or polypus.

In curettings of these very early patches, as in Dr. Bantock's and Mr. Keith's cases, the difficulty is immense in deciding whether there is epithelial proliferation of the cell linings, diminishing interglandular matrix, and reduplication of glands, or whether the cell proliferation is sarcomatous.

Whether these cases are very early commencing carcinomatous, sarcomatous disease or inflammatory, we have clinically a form of hæmorrhage which neither usual medication nor curetting, nor removal of the ovaries and tubes, appears to benefit or check.

Hæmorrhage is the only symptom of long duration, occurring possibly about the menopause, and threatening life.

Physically there is no fixation of the uterus, and while there may be or may not be ovarian or tubal disease there are no secondary deposits, offensive discharge, or pain, the usual associates of progressive malignant disease.

The term "hæmorrhagic endometritis" may well be applied to such clinical conditions of chronic inflammation of the endometrium. The same pathological condition of the endometrium is also present, though not so marked, in all cases of bleeding from the uterus, and is the expression of some general or local condition.

Some of the causes of uterine hæmorrhage were dealt

with in the valuable paper contributed to this Society by Dr. Savage on March 9, 1893, and in the debate which followed. Briefly repeated, such may be due to submucous and polypoid myoma, to sub-involution, flexion, prolapse, malignant disease, ovarian and tubal disease, alcoholism, renal and hepatic disease, blood stasis associated with constipation and obesity, and mitral incompetency with backward pressure. To these I would add the menorrhagias of gonorrhœa and syphilis, in single women, parous women, and in women the subjects of inherited syphilis, usually associated with ovarian and tubal disease. Pathologically, I have endeavoured to show the doubt as to the true nature of Dr. Bantock's and Mr. Skene Keith's cases; while, as far as I know, there is nothing in the clinical history to throw light on the cause of the intractable bleeding.

In the late Sir Spencer Wells' case there is a history of gonorrhœa previously; but I am not sure it is conclusive, and several facts point to the general or constitutional cause rather than the local.

The following case, without doubt, suggests the constitutional or syphilitic factor.

Case IV.—In the temporary absence of Dr. John Shaw this summer, at the North-West London Hospital, I was asked to see a married woman, aged 30, the mother of three children, and who had also had several abortions. She was under Dr. Guthrie for tinnitus, absolute deafness on the right side, vertical headache, and epileptiform seizures. In addition the periods were profuse and alarming, lasting nine days. Her gynæcological history was this: In 1891 she states she suffered from great bleeding at the periods with some lump in the side, and that her ovaries were removed in the Chelsea Hospital for Women in that year. She was relieved of pain, and hæmorrhage ceased for three months, after which it was as bad as ever. I understand it is correct that the ovaries were removed, one being cystic. She is subject to sore throat, and at the present time the fauces are congested, and several small ulcerated patches are seen.

Under large doses of iodide of potassium the general condition improved, and the periods were reduced to six days.

As the bleeding, however, was still alarming she was admitted as an in-patient, and under chloroform the uterus was found enlarged, the mucosa thickened, and some pelvic swelling to the side of the uterus detected.

She was curetted by Mr. Jackson Clarke, who informed me later that the mucous membrane did not differ from that usually seen in chronic endometritis, while the pelvic swelling was possibly exudative. The next period was as bad as ever, and exploratory operation was, after consultation, proposed.

She was, however, dissatisfied that curetting had done her no good, and left the hospital. She appears to have spent various periods of her life in hospitals, and I have little doubt has been admitted elsewhere since. Both Dr. Guthrie and Mr. Jackson Clarke agreed in the syphilitic history in her case.

So far I have endeavoured to deal with hæmorrhagic, *i.e.*, chronic endometritis, and the differential diagnosis between it and commencing adeno-carcinoma of the body of the uterus.

Adeno-carcinoma, however, attacks the cervical portion ; but also in the cervix and as the differential diagnosis between simple erosions, sarcoma, and squamous cancer, that is epithelioma, has constantly to be considered.

In this situation diagnosis is rather more easy, for usually portions are removed which include healthy tissue, and direct epithelial extension from the surface or the presence of adeno-carcinoma, or sarcomatous cell-growth, may be contrasted with normal cervical tissue.

In this situation the clinical and pathological differentiation between syphilitic erosions and malignant is not always easy. Relapsing syphilitic erosions, with or without induration, are not uncommon in pregnancy and at the menopause. They bleed readily, are associated with impaired

health, and to my knowledge have been diagnosed as malignant, till mercury and iodide have cleared the matter up. As regards the microscopical differentiation, the epithelioid cells of syphilitic granuloma may without care be mistaken for epithelial proliferation.

The following expresses this difficulty, which I find in Dr. Samuel West's "Lectures on the Diseases of Women," p. 655, in a memorandum made by Mr. Paget (now Sir James), from the *post-mortem* examination of the uterus of a young woman who died under chloroform, in whom a syphilitic sore had existed for eighteen months.

"In the material scraped from the free surface of the upper ulcer, there were so many small epitheliiform scales of various shapes, with well-marked nuclei and nucleoli, and various granular contents, that epithelial cancer might have been suspected. But all these cells and their nuclei were small, there were no laminated epithelial corpuscles, and (which was most significant) when I examined the substance of its base, taking it from beneath and from immediately beneath its surface, I found nothing but the natural tissues of the mucous membrane with infiltrated, inflammatory, or reparative materials. . . . On the whole, the result of the microscopical examination was to show certainly that the characters of these ulcers are like those of common ulcers, having no new formed structures of peculiar or specific form. If the materials taken from the surface of the ulcer had been examined during life, they would probably have led to a diagnosis of epithelial cancer. . . ."

Dr. MACNAUGHTON-JONES observed that he knew no subject more important than this; it involved the difficult question of the differentiation of obscure conditions of the endometrium, which were on the border and between the malignant and the benignant. It involved also the question of operative procedures, as between hysterectomy and palliative measures. It was often very difficult to make a diagnosis from the clinical features alone; on the other hand, the evidence supplied by the microscope was often conflicting.

He published, many years ago, a section of a case of hæmorrhagic endometritis, in which the ultimate ending of the case showed that it was sarcoma ; in this case the structure of the interstitial tissue presented a marked deviation from the normal. He was not sure that "hæmorrhagic endometritis" was a scientific term ; the conditions found were so various that it came to this, that they were calling several diseases by the name of their common symptom. In one case, where the patient had much hæmorrhage, a small raspberry-like projection was found in the uterus. The pathologist's report was that it was decidedly malignant, but the patient was at the present time alive and well. Lately he had operated on two cases bearing on this question. One was aged 24. Menstruation commenced at the age of 12, and continued regular and normal until she was 15. Then metrorrhagia set in, and continued excessively and unintermittently for a period of six months. After this erratic and excessive periods occurred until she was 17. She then suffered from *emansio mensium* for one year. In her own words, "from that time the periods have occurred at intervals of a fortnight (sometimes less), and have often lasted ten days or more. The hæmorrhage was very dark in colour, with a great many large clots. Since the age of 20 I have been worse, sometimes being unwell for weeks together. This has weakened me considerably, rendering me liable to sudden giddiness and attacks of fainting. I have had considerable pain at either side when the hæmorrhage lasted for any time."

The second case was that of a lady, aged 32. She suffered from leucorrhœa for some years, and as far back as 1891 she had been under treatment for endometritis, and was frequently depleted. In August of that year curettage was advised and carried out. Previous to this there had been no hæmorrhage, but after the operation it began to recur, and from then to the present year she had been subject to metrorrhagia. As she said, "the hæmorrhage generally lasted from one period to the next. I was

occasionally free for a day or two, but it seldom quite stopped."

In the first of these two cases he found the uterus enlarged, though not to any great extent, the canal measuring about three inches. The patient was married, but had no children. There was a profuse hæmorrhagic discharge, and a deep erosion surrounded the os uteri. In the second the uterus was considerably enlarged, the cavity measuring three and a half inches. The only sign was the continuous hæmorrhage. Both these cases were subjected to the same treatment—dilatation of the uterus, free curettage of the entire cavity, and the application with the cotton-wool holder of a solution of chromic acid, one drachm to the ounce. In both cases the result had been equally satisfactory. The operations were performed in July last, and further than that there was a slight prolongation in No. 2; the catamenia had been quite regular, and there had been no hæmorrhage. Both patients were given hydrastis and stypticin for some time after the operation.

The pathological reports were as follows :—

"Case 1 : The stroma of the endometrium is much infiltrated with inflammatory products and extravasated blood. The glandular tubules are abundant, and for the most part well defined. Though the appearances are suspicious in places, there is no definite evidence of malignant disease. Case 2 : The curettings have been embedded and cut. The sections show hypertrophic and dilated glandular tubules, and considerable increase of the cellular stroma, as in fungous endometritis, but there is no evidence of malignant disease.—(Signed) J. H. TARGETT."

All the forms of endometritis mentioned by Dr. Shaw-Mackenzie were apt to run into one another, and often they could not be differentiated. But when they had to deal with fungous endometritis in a patient who had had severe hæmorrhage for some time, many portions of the endometrium should be examined. As these cases tended to become malignant, if they were not so already, removal of

the uterus would generally be the best thing for the patient as well as for themselves.

Dr. CLEMENT GODSON had seen the patient mentioned by Dr. Shaw-Mackenzie five years ago in consultation with a London gynæcologist, when curetting was advised and subsequently done. He heard no more of her until a few months ago, when he saw her again in consultation with Mr. Keith. He was much struck by the marked change in her appearance; she was pale and thin, and looked as if another flooding would be fatal to her. After hearing what had been done, all without benefit, we agreed that the only treatment was removal of the uterus; this had been entirely successful, and he congratulated Mr. Keith on the excellent result of the operation.

Dr. HERBERT SNOW said that all who had depended on pathologists' reports must have felt *quot* pathologists *tot sententiæ*. Each pathologist had his own methods and views, and the very nomenclature was vague. Dr. Shaw-Mackenzie had shown one of the cases as sarcoma; he himself held the view that sarcoma was invariably accompanied by spindle cells, and that there was no such thing as a round-celled sarcoma; indeed, he doubted whether a true sarcoma of the uterus existed. Epithelioma of the cervix did not now concern them, and so practically the only malignant condition of the uterus they had to consider was carcinoma from proliferation of the tubular glands. These glands first became branched, then ulceration set in and the tubular structure became unrecognisable. It should be remembered that when malignant disease occurred in the uterus it was practically encapsuled, and tended to spread along the free surface; he therefore believed that if taken early enough a free scraping might be effective in curing the cancer, and the fact of non-recurrence should not be taken to prove that it was not cancer.

Dr. F. EDGE said that in his small experience he had seen three cases in which the patient was near the menopause, and in which he could not discover the cause of the

hæmorrhage. In two of them, under an anæsthetic, he found a small myoma. In many of these cases by performing hysterectomy they were in danger of going too far, for the hæmorrhage might be due to constitutional conditions, and it was sometimes a question whether they were not removing an organ that was suffering, but not to blame. Taking 100 cases of hæmorrhage lasting some years, were they justified in doing hysterectomy in every one because in ten of them malignant disease developed? It was possible that even in these ten the malignant disease might be averted by appropriate treatment, considering how far cancer resulted from local irritation. There was no predestination in the matter of cancer. He thought that to advise hysterectomy for hæmorrhagic endometritis was to open the door of surgical intervention much wider than many of them would intend.

Dr. C. H. F. ROUTH thought the diagnosis of these cases was no more advanced to-day than it was thirty years ago. Three competent men might see a case and diagnose it respectively as carcinomatous, sarcomatous, and benign. The microscope was not a reliable guide, and they had to look for other tests. Hæmorrhage alone was not sufficient, they must take the *tout ensemble* of the patient, and not localise their attention to the uterus. Thus they must inquire into the question of heredity, and take note of the general appearance. Of local signs the two most important were the presence of indurated glands and fixation of the uterus, about or in the neighbourhood of affected parts.

Dr. GRANVILLE BANTOCK admitted that he had very little confidence in the microscope; cases described as malignant lived free of recurrence, and *vice versâ*. He had seen only three cases in which he thought it necessary to remove the uterus for hæmorrhage. One was a young married woman, aged 27, who had had both appendages removed at different times; after this she had almost constant hæmorrhage, for which she said that if she had been curetted once, she had been curetted fifty times. On

dilating the uterus he removed a table-spoonful of soft matter, which was reported on by a pathologist as hæmorrhagic endometritis. He removed the uterus, and on opening it found another teaspoonful of the same material. She was now quite well. The other two patients had passed the menopause; one died twelve months later, said to be of cancer of the liver; the other was alive and well. One point in Dr. Shaw-Mackenzie's paper had been overlooked, viz., his view that these cases were of syphilitic origin. He thought that if this were the case they would meet with such cases much more frequently than they did.

Dr. SHAW-MACKENZIE, in reply, said he agreed with all that had been said as to the difficulty of diagnosis between inflammatory conditions and new growth. He thought the microscope usually was, and would be, successfully appealed to in the majority of cases. He was interested in Dr. Macnaughton-Jones' first case, but he had not mentioned the cause of the hæmorrhage. Now he had seen recently several cases of hæmorrhage in young women where he believed it to be due to inherited syphilis, either because sisters had had notched teeth, or because the mother had had several miscarriages, or because there was a direct history of syphilis in the father; and in such cases he had obtained excellent results from the administration of mercury and iodides. This remedy would also often obviate the necessity for curetting in sub-involution of the uterus. He regarded hæmorrhagic endometritis as due, not so much to malignant disease, but to a very chronic inflammatory endometritis. Nevertheless, hysterectomy was the last resource in the cases he had brought forward.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

THURSDAY, JANUARY 13, 1898.

PROF. A. W. MAYO-ROBSON, F.R.C.S., PRESIDENT, IN THE CHAIR.

PRESENT : 32 Fellows and Visitors.

The following gentlemen were elected Fellows of the Society : H. Jellett, M.D., Dublin ; W. E. Bellis, L.R.C.P. & S.Edin., London.

The following gentlemen were proposed for election : E. Doyen, M.D., Paris ; Prof. Leopold Laudau, M.D., Berlin ; R. J. Kinkeard, M.D., Galway ; W. A. Fogerty, M.D., Limerick ; Arnold C. Ingle, M.D., Cambridge ; E. A. Applebe, L.R.C.P.E., Winchester ; J. J. Redfern, M.D., Croydon ; S. R. Hunter, M.D., Clapham ; S. W. Cheetham, M.R.C.S., London ; Malachi J. Robinson, M.D., London ; A. Thomson Drake, M.B., Lewisham ; Arthur Gale, M.R.C.S., Kingston ; John Chestnutt, B.A., L.R.C.S., Howden, Yorks ; E. S. Forde, L.R.C.P. & S.Edin., Galloway ; Henry Pillow, M.D., London ; H. R. Mosse, M.D., London ; R. J. Morris, L.S.A., Lancaster ; R. A. Clarke, L.R.C.S.I., Teddington ; E. A. Crampton Baylor, B.A., M.D., Dublin ; Alex. Macdonnell, L.R.C.S.Edin., London ; F. W. Parsons, L.R.C.P., Wimbledon ; W. H. Bagnell, L.R.C.S.I., Pau, France ; W. Donovan, M.D., Birmingham ; T. S. Floyd, M.D., Birkenhead ; W. Barter, M.D., London ; P. F. Barton, B.A., M.R.C.S., Wimbledon ; C. H. Hartt, L.R.C.P.I., Greenwich ; T. G. Emmerson, M.D., Wantage, Berks ; P. Quinlivan, M.D., London ; T. Arthur Helm, M.D., Manchester ; E. Stanmore Bishop, F.R.C.S., Manchester ; J. L. Thomas, F.R.C.S., Cardiff.

ANNUAL MEETING.

Election of Officers.

The PRESIDENT stated that Dr. J. Shaw-Mackenzie had withdrawn his name for the post of Secretary.

Mr. BOWREMAN JESSETT proposed the nomination of Dr. Arthur Giles to fill the post rendered vacant by Dr. Shaw-Mackenzie's withdrawal.

This proposal was seconded by Dr. HEYWOOD SMITH and supported by Dr. PURCELL.

The Scrutineers, Mr. BOWREMAN JESSETT and Dr. BENNETT, reported that with this alteration, the gentlemen nominated by the Council were unanimously elected as follows:—

President.—H. Macnaughton-Jones, M.D., London.

Vice-Presidents.—G. G. Bantock, M.D., London, Professor J. W. Byers, M.D., Belfast; A. E. Cordes, M.D., Geneva; G. Elder, M.D., Nottingham; R. A. Hodgson, M.D., London; F. Bowreman Jessett, F.R.C.S., London; J. J. Macan, M.D., London; Professor W. L. Reid, M.D., Glasgow; C. H. F. Routh, M.D., London; F. F. Schacht, M.D., London; W. Travers, M.D., F.R.C.S., London; Professor Hector Treub, M.D., Amsterdam.

Treasurer.—J. A. Mansell-Moullin, M.D., London.

Council.—W. Armstrong, M.R.C.S., Buxton; E. Tenison Collins, F.R.C.S., Cardiff; A. Donald, M.D., Manchester; F. Edge, M.D., Wolverhampton; C. H. Gage-Brown, M.D., London; C. Godson, M.D., London; F. N. Haultain, M.D., Edinburgh; W. Balls Headley, M.D., Melbourne; P. L. Hebert, M.D., London; H. S. Howell, M.D., London; Skene Keith, M.B., F.R.C.S. Edin., London; R. Marsden Low, M.B., London; Christopher Martin, F.R.C.S., Birmingham; A. W. Mayo-Robson, F.R.C.S., Leeds; W. H. Newnham, M.R.C.S., Clifton; James Oliver, M.D., London; H. F. Powell, M.D., London; Professor A. J. Smith, M.D., Dublin; Heywood Smith, M.D., London; R. T. Smith, M.D., London; E. T. Smith, L.S.A., London;

D. Thomson, M.D., London ; John Wallace, M.D., Liverpool ; W. S. Wyman, M.D., F.R.C.S., London.

Editor of Journal.—F. F. Schacht, M.D., London.

Hon. Secretaries.—George E. Keith, M.B., London ; A. E. Giles, M.D., London.

Treasurer's Report.

The TREASURER (Dr. Mansell Moullin), in presenting the financial report for the year ending December 31, 1897, said : "I have little to add to the report. The account is very similar to that of preceding years. The balance at the end of the year, £199, compares with a balance of £207 at its commencement, but there are one or two accounts still outstanding, which will have to appear against the Society in the next balance sheet.

"Nearly the whole of the Society's income, you see, is devoted to the production of the Journal. I must take this opportunity to compliment our Editor (Dr. Schacht) on the very high degree of excellence at which he maintains the Journal. I am sure you will all agree with me it is the very best of its kind, thoroughly worthy of the Society, and reflects the utmost credit on Dr. Schacht and those concerned in its production. I am pleased to add a strict regard for economy is observed. The cost of the Journal is exceedingly heavy, and the Society's income being limited, it is necessary to fix some limit to the expenditure in this direction. Both the Editor and the Society are doing their utmost, and I think the Fellows have every reason to be pleased. The securities held by the Society are the same as heretofore. Dr. Heywood Smith and Dr. Bennett have kindly audited the accounts."

Mr. BOWREMAN JESSETT said that their best thanks were due to the Treasurer for the excellent way in which his accounts were kept and laid before them. The Journal carried away most of the money ; but he was sure that this was a way in which they would all wish the money to

The British Gynaecological Society.

Dr.			RECEIPTS AND EXPENDITURE FOR THE YEAR ENDING DECEMBER 31, 1897.			Cr.		
	£	s. d.		£	s. d.			
To Balance brought forward December 31, 1896	...	207 9 1	By Cost of Journal, Notice of Meetings, &c. ...	...	256 7 7			
„ Fellows' Subscriptions	...	355 10 7	„ Rent and Attendance...	...	54 17 6			
„ Advertisements in Journal	...	29 6 9	„ Honorarium to Editor	...	52 10 0			
„ Dividends on Investments	...	10 12 8	„ Reporting and Sub-editing (5 quarters)	...	32 16 3			
„ Interest on Deposit at Bank...	...	1 2 9	„ Illustrations and Typing	...	20 4 9			
„ Sale of Furniture	...	20 0 0	„ Bank Charges...	...	0 6 10			
			„ Stationery, Postages, and Petty Expenses...	...	7 12 5			
			„ Balance at Bank	...	191 19 6			
			„ „ in Hand	...	7 7 0			
				£624	1 10			

We hereby certify that we have examined the above account with the counterfoil receipt books and vouchers in connection therewith, and find it to be correct. We also certify that the Society holds the following securities: £270 Grand Trunk Railway 4 per cent. Debenture Stock, £5 Caledonian Railway 4 per cent. Preference Stock, and £100 on deposit account with the London and County Banking Co., all in the Treasurer's possession.

HEYWOOD SMITH, } *Auditors.*
C. H. BENNETT, }

be spent, because comparatively few of the Fellows could attend the meetings ; but, thanks to the Journal, all could know what was going on in the Society, as well as the progress in gynæcology in the world at large. He had pleasure in moving a hearty vote of thanks to Dr. Mansell Moullin.

Dr. HEYWOOD SMITH seconded the vote of thanks. He cordially endorsed all that had been said as to the expenditure on the Journal. As auditor, he had been much impressed with the neat and correct way the Treasurer's accounts had been kept.

The proposal was supported by Dr. C. H. BENNETT, and carried unanimously.

Editor's Report.

The Society's Journal during the last year has been continued on very much the same lines as heretofore. Any modifications that have to be recorded are modifications of detail rather than of the general design. Still those alterations in detail are, from the Editorial point of view, important, seeing that by them it is hoped the Journal may become more attractive, not only to the Fellows of the Society, but also to all who are interested in Gynæcology. The principal modification lies in the substitution of a smaller type for the Summary of Gynæcology at the end of the Journal. The advantages thus gained are obvious ; for not only can a larger number of important abstracts from the numerous Gynæcological Journals be inserted, but they can be published in a form sufficiently extended to make them of real value to the Fellows.

In this way are indicated those articles in foreign Journals that are most worthy of notice, as well as the direction in which foreign as well as English Gynæcology is tending. Such information can only be second in value to the record of the Proceedings of the Society itself, and therefore of extreme importance to the Journal. It is difficult to accurately gauge the increase in length of these abstracts, but as

far as numbers go, there were 121 in 1897 as compared with 71 in 1896.

An endeavour has been made to make original articles more attractive by the freer use of illustrations—and it is only the question of expense which puts a serious limit to development in this direction.

The Reports of the Society's Proceedings have been recorded in his usual accurate and able fashion by Dr. Giles, and contain, besides the descriptions of an unusual number of interesting specimens, some valuable papers on a variety of subjects, beginning with Dr. Godson's able valedictory address on "Antiseptics in Gynæcology." This was followed by the President's most interesting discourse on "The Relation of Gynæcology to Surgery."

The other meetings were occupied by (a) a long and adjourned discussion on Dr. Beatson's "Method of Treatment of Inoperable Carcinoma" (in which Dr. Beatson himself took part), opened by Dr. Armstrong of Buxton; and (b) valuable papers by Dr. Herbert Snow on "Exploratory Laparotomy"; Dr. R. T. Smith on "Puerperal Peritonitis treated by Anti-streptococcic Serum"; Dr. Hector Treub on "The Mechanism of the Inversion of the Uterus"; Dr. Skene Keith on "Dysmenorrhœa"; and Dr. Shaw Mackenzie on "Hæmorrhagic Endometritis."

The *Original Communications* have been both theoretical and practical and always full of interest. They were:—"Gynæcology in Berlin," by H. Macnaughton-Jones; "The Development and the Present Status of Hysterectomy for Fibro-Myomata and for Inflammation of the Uterine Appendages in America," by Charles P. Noble, M.D.; "Sarcoma of the Uterus," by W. Roger Williams, F.R.C.S.; "Twelve Months' Gynæcological Work," by J. A. Mansell Moullin; "Clinical Notes and Observations on One Hundred Consecutive Cases of Abdominal Section," by J. Furneaux Jordan, M.B., F.R.C.S.; "On the Use of Nitrous Oxide Gas and Oxygen in Minor Gynæcological Operations," by H. Bellamy Gardner; "Asepsis and Antisepsis in Gynæcology," by H. Macnaughton-Jones.

The Reports of Societies' Proceedings have been more extended ; the Reviews have been more numerous, and in consequence, perhaps, the number of books sent for review have increased.

I have still to note that the number of Clinical Cases sent me are not so numerous as I could wish ; and as the Fellows of this Society could supply any number with very little trouble, if they would only persuade themselves to do so, I venture again to ask them to bear this heading in mind and benefit their brethren by sending, in short and simple form, their interesting cases.

The question of the advertisements has been, and is still receiving, the attention of the Journal Committee. I am glad to say that a good number of fresh ones have been recently obtained, and I hope the Treasurer will be able to give a better report under this item in his next Balance Sheet.

I have, in conclusion, to put on record once more the very valuable assistance I continue to receive from many of the Fellows—especially Dr. Edge, Dr. Hebert, Dr. Giles, Mr. Jessett, Dr. Macnaughton-Jones, Dr. Jordan, Dr. Macan, Mr. Taylor and Dr. Travers, and I would express the hope that others may be able to give the Journal the advantage of their assistance in the coming year.

The PRESIDENT, in moving the adoption of the Editor's report, proposed a hearty vote of thanks to Dr. Schacht for his important services in editing the valuable Journal. Most of the Fellows could not be present at the Society's meetings, but the discussions were so well reported that all who could not be there could keep themselves abreast of the work done. He thought the way the Journal was conducted was so efficient as to leave no room for improvement.

Dr. MACNAUGHTON-JONES seconded the motion, and remarked that after what had been said by the President there was little that he need add. He looked on the Journal as second to none in the world. When the previous Editor laid down his task, many felt that it would be a very difficult matter for another to carry on the work equally well ; but

any anxiety they might have felt had been entirely dispelled by Dr. Schacht's admirable editorship.

The vote of thanks was carried with acclamation.

Vote of thanks to Retiring Officers.

Dr. HEYWOOD SMITH proposed this vote of thanks. He said that he need not select names, but perhaps special thanks were due to the retiring President, Professor Mayo-Robson, for the trouble he had taken in coming up so regularly from Leeds to preside at their meetings.

Dr. PURCELL seconded the motion, which was carried unanimously.

The PRESIDENT then delivered a valedictory address.

VALEDICTORY ADDRESS.

By A. W. MAYO ROBSON, F.R.C.S., Professor of Surgery in the Yorkshire College of the Victoria University ; Senior Surgeon to the General Infirmary at Leeds.

GENTLEMEN,—I trust that you will condone my departure from the usual valedictory address in taking as my subject one which, I believe, cannot help but interest all who are engaged in gynæcological practice. I have ventured to do this for several reasons : first, because I happen to have had considerable experience in the subject of ectopic gestation, having either myself operated on, or seen with others, close on 40 cases ; secondly, because I have certain original observations on diagnosis to mention ; and thirdly, because I have recently heard or read of a number of deaths from ectopic pregnancy which would not have occurred had the subject been as well understood by the profession at large as it is by the Fellows of this and kindred societies. I feel, therefore, that as President of the British Gynæcological Society, I shall be taking a broader view of the responsibilities of my office by taking up a subject of wider interest than if my remarks were simply confined to the session's work, important as it has been.

The subject of ectopic pregnancy is of no less scientific than practical importance, for not only does it offer several problems difficult of explanation, but from its frequent occurrence and its alarming and dangerous symptoms, its study becomes of the first importance both to the general practitioner and to the operating surgeon.

It is a curious fact that in every female mammal above the monotremes, there is a portion of the genital canal between the abdominal ostium and the uterus in which, under normal conditions, the impregnated ovum is not retained, and that its lodgment and growth in this situation rarely occur except in woman.

Its frequency in woman may be the result of desquamative salpingitis, which Mr. Lawson Tait—to whom we owe so much in this special line of work—says is always present in such cases. The fact of there nearly always being a history of previous menstrual troubles, and often of serious pelvic disease, before the ectopic pregnancy occurs, tends to support this view, and it is well shown in the record of my cases handed round; though in one, Case 2, there was not only an entire absence of any such history, but the organs themselves when handled, and the tube when examined after removal, showed no evidence of disease other than the one for which operation was undertaken.

Tubal gestation is of interest also, from the many forms it may assume and the many accidents that may occur in its course; these varieties being mainly dependent on the position of the ovum in the tube as well as on the site of the placenta. I have endeavoured to show in the chart the probable varieties of the disease that may be met with, and have marked by an asterisk those varieties that I believe I have had experience of.

Had I the wish, it would be manifestly impossible in a short address to traverse the whole field in so extensive a subject. I propose, therefore, to make some remarks on my cases, to refer to certain points in diagnosis, and to consider one or two details in treatment.

Taking the list as a guide, it will be noticed that the greater number of cases, Nos. 1 to 9, come under the regular form, in which the rupture takes place into the peritoneal cavity before the twelfth week, and death occurs from hæmorrhage unless the case be treated surgically, and it will be seen that of these all recovered except one, who was operated on when pulseless, and where death resulted from pulmonary embolism within twenty-four hours.

The next most frequent class in the list, Nos. 16, 18, 20, 21, 22, and 23, where the primary hæmorrhage is recovered from, may be termed subacute, and is interesting in that the after-course is so very variable. The bleeding becomes arrested by plastic peritonitis throwing out a barrier of lymph which causes adhesions of the contiguous viscera, thus forming a more or less considerable pelvic tumour.

These cases may be difficult to diagnose unless the history be carefully taken, but as a rule that is sufficiently characteristic to give the key to the situation. Cases 16, 20, 21, 22 and 23, are good examples of the limitation of bleeding by matting of intestines and omentum, and in cases 3, 5, and 8, the occurrence of second and third attacks of syncope probably marks the recurrence of fresh hæmorrhages. Case 22 is a forcible example of one of these cases being left to Nature for six weeks, the operation having at last to be undertaken with a pulse of 145, and a temperature of 102° ; fortunately, however, it was not too late.

Nos. 14 and 17 are instances of so-called hæmato-salpinx in which the blood had been poured out through the open end of the tube, either from death of the ovum or from abortion into the peritoneum through the abdominal ostium.

I have seen and operated on several cases of suppuration in the pelvis, in which the history and the character of the abscess have led me to believe that the cause has been an extra-uterine gestation, in which the bleeding has become limited by adhesions and the intra-peritoneal hæmatocele has afterwards broken down into pus, but the difficulty of

proving the origin has led me to leave them out of the list. In Case 10, however, the history of an ectopic pregnancy rupturing into the broad ligament and of the hæmatocele breaking down, seems so clear that I have introduced it as an example. This case also shows how a false stricture of the rectum may be produced by effusion into the left broad ligament, and yet completely clear up when the collection is evacuated.

Case 4 may possibly be an example of ovarian pregnancy, but if so, it was at an extremely early stage and the ovum was not found, though searched for in the blood clot ; moreover, the tube and ovary were adherent, so that even had the ovum been discovered the proof of ovarian gestation would not have been certainly established. It is of interest in that it occurred in a patient on whom I had operated on account of a ruptured ectopic gestation on the opposite side four months previously.

Case 3 exemplifies apparent recovery after the first rupture, then secondary rupture of the false gestation sac, and fatal hæmorrhage saved by operation. No. 11, which came under my care for cystitis, presents several interesting points. The patient, then single, was in the hospital in York twenty-five years before, and excited considerable interest, as although pregnancy was diagnosed, she denied it, and apparently proved herself in the right at the time, as labour never supervened. She passed through a tardy abdominal illness, but was well enough to marry four years later, and remained well until cystitis developed. On sounding the bladder I felt a solid body, and after dilating the urethra I removed a number of bones belonging to a lithopædion, the sac of which I could feel bimanually in the pelvis. By means of a scoop and a syringe I was able, under ether, to empty the sac, and the patient recovered, and was well ten years later.

Diagnosis.—In all the acute cases that I have seen there has been no difficulty in making a diagnosis, the symptoms having been pathognomonic. These were a sudden pelvic

pain followed by faintness of varying degrees, even to extreme collapse ; the history of one, or perhaps two, missed periods, and usually the appearance of a slight metrorrhagia, with, at times, the passing of decidual membrane. On pelvic examination the uterus was usually found tilted over to the normal side, and a soft doughy swelling could be felt at the site of the disease. The special symptoms to which I would draw attention are :—

(1) Superficial dulness on percussion over the pubes and in either flank, which on deeper percussion gives a resonant note.

(2) A thrill in the same regions on gently flicking with the finger nail, though no ordinary signs of fluctuation can be felt.

(3) A symptom which, I believe, has not been hitherto described. On turning the patient over, the dulness in the flank then uppermost persists for some little time, but gradually disappears in a way which I have never found in the case of any other fluid than blood in the peritoneal cavity.

(4) In one case related to me by my colleague, Mr. Jessop, the liver dulness had entirely disappeared, apparently owing (a) to the liver having become diminished in size from the loss of blood, and (b) to the bowels having been pushed up by the effusion of blood in the pelvis.

In nearly all the cases there was dysmenorrhœa for some time before the catastrophe, and in several the pain of the pregnant tube led the patients to seek advice before rupture occurred.

In three cases I made the diagnosis of tubal pregnancy before rupture ; in one, Case 13, the rupture occurred into the broad ligament, and after a long, tedious illness the patient recovered without operation. In another, Case 19, I removed the unruptured tube containing the ovum ; and in a third, Case 6, I made the diagnosis and arranged to operate, and the rupture actually occurred on the way to the operating theatre, where I removed the tube still bleeding.

In the class of cases not seen until some time after the first rupture, the presence of a painful tumour fixing the uterus, often more marked at one side, usually filling up the pouch of Douglas, and sometimes reaching above the pelvic brim, when taken with the presence of metrorrhagia, the passage of decidual membrane, and the characteristic onset following on previous dysmenorrhœa with one or two missed periods, will usually lead to a right conclusion.

Treatment.—Had it not been that quite recently I saw the report of a fatal case of ectopic pregnancy in which a surgeon was called in but declined to operate because of the collapsed condition of the patient, I should not have thought it worth while to remark on the treatment of these cases, as I think we are nearly all agreed that the arrest of hæmorrhage by the ligature and removal of the bleeding tube should always be adopted when the rupture has taken place into the peritoneal cavity.

A reference to my table of cases will show that three of the patients were pulseless at the time of operation, and in all three a pulse had returned at the wrist before the operation was finished, doubtless due to transfusion through the peritoneum by the absorption of the saline solution used in washing out the abdominal cavity to clear it of blood and clot.

My former remarks will show that I believe there will seldom be any doubt in diagnosis, but even if there should be, it is infinitely better to make a small exploratory incision in the middle line than to stand idly by and allow the patient to die of hæmorrhage when the simple application of a ligature could save her life. Such an exploratory operation need not necessarily open the abdomen, as in case of intra-peritoneal hæmorrhage the blood shows through on exposing the parietal peritoneum.

Even where the patient has partly recovered from the first hæmorrhage I would urge operation, since a second hæmorrhage may at any moment occur and prove fatal before operation can be arranged. When rupture has

TABLE OF TWENTY-THREE OPERATIONS FOR EXTRA-UTERINE GESTATION.

No.	Date	Initials	Age	Private or Hospital	History	Condition when seen by Operator	Operation	Result	After History
1	27 4/91	Mrs. F...	29	P.	Previous good health; 2 children, last 2 years before; one missed period, 2 weeks; sudden pain and collapse in railway station; carried home to bed; slight metrorrhagia	Seen in collapse some hours after; uterus slightly pushed to the right	Abdomen full of blood and clots; left ruptured tube removed; lavage; drainage	R.	Now well.
2	23/12/91	Mrs. H...	23	P.	Regular in menses, and well up to 3 weeks before seizure, when began to have pain on right side of pelvis; missed period; sudden pain and collapse while at breakfast; slight metrorrhagia, and menses passed	Seen within 2 hours; pulseless; fulness on right, and uterus tilted to left	Abdomen full of blood and clots; right ruptured tube removed; lavage; drainage	R.	Now well.
3	22/2/92	Mrs. C...	32	P.	Rupture sixth week from last period; sudden seizure while going to church; collapse; partial recovery on removal to bed, and then second attack 24 hours after first; slight metrorrhagia	Pulse 140; no tumour felt; fluctuation in abdomen; sanguineous vaginal discharge	Operation 32 hours after first rupture; six hours after second attack; left tube ruptured close to uterus; removal; lavage; drainage	R.	Now well.
4	3 4/92	Mrs. H...	24	P.	Sudden seizure with faintness after period missed few days	Large blood cyst in neighbourhood of ovary, which was joined up to open end of Fallopian tube; tumour felt on bimanual examination	Appendage removed; questionable ovarian form of ectopic gestation	R.	Well.

5	18/8/92	Mrs. S. ...	30	P.	Six weeks since last period, slight show soon after period missed. First attack 2 days before I saw her : partial recovery ; second attack 12 hours before my visit ; metrorrhagia	Collapsed and pulseless. Left tube size of small orange, ruptured in middle. Fluctuation in abdomen	Operation 48 hours after first rupture ; abdomen full of blood ; removal of left tube ; lavage ; drainage	D.	Sudden, from pulmonary embolism 16 hours after operation
6	19/3/96	Mrs. E. M.	32	H.	Menses normal up to January, when last period ; end of February menses appeared, and membrane passed with pain, and later some faintness	Swelling to right of and behind uterus ; faintness just before operation	The tube had just ruptured on the peritoneal aspect, and was bleeding freely ; the ovum was found in the tube intact ; much blood free in pelvis	R.	Cure.
7	6/10/96	Mrs. G. ...	34	P.	One missed period : sudden attack of syncope, with pelvic pain, thought to be peritonitis	Rapid pulse ; distended abdomen ; fluctuation in abdomen ; uterus tilted to right ; os soft and patulous ; slight vaginal discharge	Abdomen containing free blood ; clots in large quantity ; ruptured left tube removed ; lavage ; drainage	R.	Well.
8	2/3/97	Mrs. C. ...	28	P.	Salpingitis and ovaritis years before ; never pregnant ; one period missed six weeks ; sudden faintness and pain three days before my seeing her ; second attack day before	Free fluid in abdomen ; pulse rapid ; no temperature ; tumour felt on left, and uterus pushed over to right	Abdomen full of blood ; left tube size of Tangerine orange, ruptured and bleeding ; ovum still in tube ; removal ; lavage ; drainage	R.	Well.
9	23/11/97	Mrs. B. ...	30	P.	One child four years old ; metrorrhagia or leucorrhoea ever since last period, six weeks previously	Operation 36 hours after rupture ; recovery from initial collapse and recurrence of fainting ; pulse 130	Operated on for me by Mr. W. H. Thompson 36 hours after rupture ; about 3 pints of blood free in peritoneum ; ruptured tube removed ; abdomen washed out and drained	R.	Cure.
10	4/6/80	Mrs. B. ...	26	P.	Missed period soon after marriage ; sudden pain in pelvis and collapse followed by discharge of blood and membrane. Formation of hæmatocele in left broad ligament	Tumour on left of pelvis reaching into abdomen ; tender on pressure ; fever ; Douglas' pouch filled up ; rectum surrounded ; illness extending over several months	Abscess of left broad ligament opened up and drained ; blood clots with pus in abscess sac	R.	Well now.

TABLE OF TWENTY-THREE OPERATIONS FOR EXTRA-UTERINE GESTATION.—*Continued.*

No.	Date	Initials	Age	Private or Hospital	History	Condition when seen by Operator	Operation	Result	After History
11	4/5/87	Mrs. M....	42	P.	Abdominal tumour with amenorrhœa 25 years before; pregnancy diagnosed, but no labour followed; abdomen gradually got less; 7 years bladder symptoms	Hard pelvic tumour felt at lower part of abdomen, and bimanually felt close to and fixed to uterus	Uterus dilated and bones extracted from fetal sac through bladder; bladder and fetal sac washed out; drainage	R.	Quite well some years later.
12	15/9/89	Mrs. R. S.	29	...	Dysmenorrhœa since marriage 5 years before; probably gonorrhœa; amenorrhœa 3 months; sharp pelvic pain followed by painful menstruation	Seriously ill with great pelvic distress; tumour on left of uterus; uterus ante-flexed and pushed to right	Fœtal blood cyst in left broad ligament, size of hen's egg, with ovary and tube adherent; removal	R.	Quite well since.
13	21/9 90	Mrs. W....	31	P.	Dysmenorrhœa and dyspareunia for 5 years, since birth of child; pelvic pain and two missed periods	Tumour on right of uterus diagnosed as extra-uterine gestation; operation declined; sudden pain followed by syncope; pelvic hæmatocœle developed.	Hæmatocœle absorbed very gradually, and convalescence prolonged	R.	Well now.
14	10/11/90	Mrs. K. C.	20	H.	History of gonorrhœa followed by dysmenorrhœa and continued pelvic distress; one period missed	Tumour felt on left of uterus; great pelvic distress and marked tenderness on bimanual examination	Left tube filled with blood clot, and ovary and tube adherent; probably abortion in tube; membranes, but no fœtus; removal	R.	Quite well since.
15	11/12/90	Mrs. A. F.	26	H.	Severe pain; dysmenorrhœa, then period of amenorrhœa	Great pelvic distress; involution; fixed tumour on left of uterus	Left hæmatosalpinx removed; blood clot and membrane, but no fœtus found	R.	Quite well since.

16	19/12/90	Mrs. S. H.	30	H.	Menses ceased end of October; 6 weeks later while at work faintness and pelvic pains; 2 days after, second attack; 2 weeks after, third severe attack, and then blood and membrane passed	Pelvic tumour; uterus pushed to left; tender abdomen; profound anaemia	Large blood clot filling pelvis; right tube ruptured $\frac{1}{2}$ inch in longitudinal axis; right appendage removed	R.	Well some time after.
17	11/5/93	Mrs. T. Jewess	26	H.	Confined 15 months before and suckled child; menses had never reappeared; 12 weeks before admission sudden pain and collapse, together with appearance of menses, which continued	Tumour size of orange felt through abdominal wall, on right of uterus; <i>per vaginam</i> this felt to be separated from uterus, though close to it; os patulous	Right tube removed with mass of blood clot surrounding it; tube unruptured, the blood having evidently escaped from the open ostium; probably an abortion from the end of the tube; much lymph with the blood clot; decidua in tube	R.	Cure.
18	...	Mrs. L. V.	26	H.	One child 3 years before; gonorrhoea; dysmenorrhoea; one period missed; severe abdominal pains, followed by collapse and recovery, and later some repetition of attacks extending over 6 weeks	Douglas' pouch and pelvis filled by soft swelling, which surrounded the uterus; os soft and exuding purulent sanguineous discharge	Ruptured Fallopian tube, with haemorrhage into broad ligament and into abdomen; limited by intestines and omentum	R.	Good recovery from operation, but 3 months later had gonorrhoeal pyelitis following cystitis and other troubles.
19	23/7/96	Mrs. P. R.	33	H.	Four children; menstruation regular up to 7 weeks before, then missed 1 week, when menses commenced and membrane passed, since which time pelvic pain and metrorrhagia	Os patulous; distended left tube felt; uterus enlarged, but freely movable	Left Fallopian tube occupied by ovum removed; ostium of tube patulous and bleeding into abdomen; tube unruptured; clots in peritoneal cavity	R.	Cure.
20	18/2/97	Mrs. H. L.	37	H.	Ten children; last 4 years ago; missed period at end of November; pelvic pain with collapse middle of December; menses then commenced; between that time and operation she had several fainting seizures with pain	Os patulous and Douglas' pouch full; soft tumour in pelvis around uterus.	Sac containing blood clot in pelvis limited by intestines and omentum; ruptured tube in centre of mass, and ovum found in centre of clot	R.	Cure.

TABLE OF TWENTY-THREE OPERATIONS FOR EXTRA-UTERINE GESTATION—Continued.

No.	Date	Initials	Age	Private or Hospital	History	Condition when seen by Operator	Operation	Result	After History
21	20/5/97	Mrs. F. C.	39	H.	One miscarriage at age of 19; 3 years before severe abdominal and pelvic pain; March 29, sudden pelvic pain and collapse; April 10, 22, and 27, and May 1, similar attacks with increased pain in left side of pelvis; metrorrhagia continuous	Uterus surrounded by soft tumour, and Douglas' pouch filled up; great tenderness	Pelvis filled with blood clot, and on left of uterus ruptured tube with placenta in it; on clearing the tube it was still bleeding	R.	Cure.
22	22/7/97	Mrs. M. H. Armley	29	P.	One child 2 years before; dysmenorrhœa; two missed periods, then great pain and faintness; abdomen became distended and a pelvic abdominal tumour developed; exacerbations of pain and several fainting attacks; rapid pulse and increase of temperature; metrorrhagia and offensive discharge	Abdomen distended and tender; pelvic tumour extending nearly up to umbilicus; uterus fixed; pulse 140 to 150; temperature 102° to 103°; os patulous; offensive purulent sanguineous discharge	Pelvis filled with blood clot, breaking down, and offensive; left tube ruptured, and containing placenta; much matting of intestines and omentum; tube ligatured off and removed; abdomen cleared and drained	R.	Now quite well.
23	22/10/97	Mrs. S. ...	26	P.	Six years before had pelvic symptoms; 9 weeks before had sudden abdominal and pelvic pains, followed by hæmorrhage from uterus; pelvic distress and uterine hæmorrhage	Pelvic and abdominal tumour surrounding uterus; marked tenderness and Douglas' pouch filled up; os patulous; sanguineous discharge; pulse rapid, and some fever	Blood clot in pelvis with placental remains; both tubes and ovaries diseased, but left ruptured; removal; drainage	R.	Well.

In outer third.		In middle third.		In inner third—that is, within wall of uterus; tubo-uterine or interstitial.	
All the varieties which occur in the middle third of the tube, except rupture into the broad ligament.	Abortion through open end of tube into peritoneum or into ovarian hydrocele; ending in recovery or in death from hemorrhage or peritonitis (hæmatosalpinx).				
Primary rupture into peritoneum, and death from hemorrhage before twelfth week unless surgically treated.	Very early primary rupture; moderate hemorrhage. Recovery not proved, but probable.	Primary rupture into abdomen, with subsequent sup-puration and peritonitis.	Rupture into broad ligament.	May rupture into peritoneum, causing death by hemorrhage eighth to twentieth week.	Questionable if ever goes to full time, in uterus—that is, after primary rupture.
The fetus may live and develop in broad ligament, and be removed at viable period (broad ligament gestation).	Hæmatocele of broad ligament and death of ovum. Recovery by absorption.	Hæmatocele suppurating and causing pelvic abscess.	Lithopædion.	Secondary rupture of gestation sac and death from hemorrhage or peritonitis.	Secondary rupture and development of fetus in intestines, even to full period (abdominal pregnancy).

Permanent lithopædion, which may remain quiescent.

Lithopædion suppurating after remaining quiescent for years, leading to serious disturbance, and death if not removed.

The accompanying schema shows at a glance the varieties of the disease that may be met with, giving a rational explanation of the conditions. It seems convenient to divide the tube into thirds, as the outer third is completely invested by the peritoneum; the middle third is only partly invested, and has the mesosalpinx below; while the inner third is placed in the uterine wall. In the outer two-thirds rupture of the tube usually occurs in the third to the tenth week, rarely beyond the twelfth; but in the inner third it may not occur until the fifth month. The anatomical arrangement forms the basis for the classification which is shown in the chart. I have marked with an asterisk all the varieties that I believe I have seen, either under my own personal care or in the hands of colleagues.

occurred into the broad ligament, operation is not called for, unless the hæmorrhage be very excessive, or unless at a later stage it ends in suppuration.

When it is borne in mind how fatal this accident is, and what a terrible condition the patient usually is in when the surgeon arrives, it is as astonishing as it is gratifying to know that the operation is so safe and satisfactory. For instance, had it not been for the accidental death from pulmonary embolism in a patient pulseless when operated on, I should have been able to record an uninterrupted series of recoveries ; as it is, the one death in twenty-three only gives a mortality of 4·3 per cent.

Dr. C. H. F. ROUTH counted it a pleasure and an honour to move a hearty vote of thanks to the President, not only for his interesting address, but also for the way in which he had presided over their meetings ; to such a presidency the Society was largely indebted for the respect in which it was universally held. The paper they had just heard showed conclusively that though there were many gynæcologists in London, they could not have done better than they did in selecting Prof. Mayo Robson as their President.

Dr. BOWREMAN JESSETT seconded the vote of thanks. He said that a year ago they had no doubt that Prof. Mayo Robson would fulfil his duties as ably as had proved to be the case. It was then objected by some that a general surgeon was not the proper man to preside over the British Gynæcological Society ; but if a gynæcologist could not be a general surgeon, their President had shown that a general surgeon could be a gynæcologist.

Dr. ROUTH put the motion to the meeting ; it was carried with cordial acclamation.

The PRESIDENT said that he felt he could not find words to thank the proposer and seconder for the kind way in which they had moved this vote of thanks, nor the Fellows for the kind way in which they had received it. It had given him great pleasure to preside at the meetings ; and he felt it an honour, as a provincial surgeon, to be President of

this, a London Society. He himself hesitated at first to accept office on the ground that he was a general surgeon, but he felt grateful to the Fellows for accepting the view that a general surgeon could be a gynæcologist. Gynæcology was a wide field ; it was not all surgery, but surgery entered largely into it. They could here meet as physicians and surgeons ; and by taking this broad view, they would hit upon the proper medium. He wished to express his thanks for the kindness and universal courtesy he had received, during his year of office, from Officers and Fellows alike.

ORIGINAL COMMUNICATIONS.

HYSTERECTOMY FOR FIBRO-MYOMATA—SOME EARLY RECORDS—REMARKS.

By MARY A. DIXON JONES, M.D., New York City.

I HAVE just had the pleasure of reading in your journal of May, 1897, the article by Dr. Charles P. Noble on "The Development and the Present Status of Hysterectomy for Fibro-myomata and for Inflammation of the Uterine Appendages in America." On page 52 Dr. Noble remarks:—"Until 1888 all progress had been along the lines of perfecting the *technique* of supra-vaginal amputation. Pan-hysterectomy for uterine fibroid was first performed in America, February 16, 1888. The operation was deliberately undertaken, as shown by the fact that some months previously Dr. Jones had, in a public discussion, spoken of the advantages which such an operation would have. At the time this operation was published it was supposed, by Dr. Jones to have been the first pan-hysterectomy for fibroid tumour, as the admirable work of Bardenheuer was not known in America."¹

¹ Dr. E. W. Cushing, of Boston, refers to the same in his paper, read before the New York Academy of Medicine, Section for Gynæcology and Obstetrics, March 28, 1895 (published in the *Monatschrift fuer Geburtsh u. Gynæk.*). Dr. Cushing says: "Meanwhile, however, another great advance had taken place, and that was the introduction of a safe and feasible method of removing the entire uterus through the abdominal incision." On November 23, 1887, Dr. Mary A. D. Jones presented before the New York Pathological Society a fibroid of the uterus, removed with extra-peritoneal treatment of the stump. She then said to the Society that she "believed a better and more rational procedure would

I wish now to present the history of each of these two cases operated on by total hysterectomy, the one in Europe and the other in America ; also I wish to present the history of the immediately preceding operation of these two surgeons, which operation in each instance probably suggested the new procedure, or led to it.

But before either of these operations total hysterectomy for myo-fibromata of the uterus had been performed by Charles Clay,¹ of Manchester, England ; his operation was on January 16, 1844, and he reported the same before the Obstetrical Society in London, 1863, saying : "The disease had existed sixteen years, the patient had an enormously enlarged abdomen, the left ovarium was four pounds in weight, the uterus twenty pounds, and the cystic deposit amounted to about eight pounds, making thirty-two pounds in all. I determined to extirpate the whole, converting the vagina into a *cul-de-sac*. The operation was soon and easily accomplished. On the twelfth day she was doing so well that every reasonable hope was entertained of her ultimate recovery. On the thirteenth day, the nurse lifting her from her bed, the patient fell on the floor somewhat violently and died on the morning of the fifteenth."

This patient of Dr. Clay's had evidently recovered from the operation. The operation was a success, and as Charles Clay said : "It was the first operation in the world where both uterus and ovaries were extirpated through the abdominal walls. Reflecting on this case," said Dr. Clay, "it

have been to open the abdominal walls, being well assured of the conditions, and liberating any adhesions, then to sever the vaginal connections as in kolpo-hysterectomy and to remove the entire uterus." On February 16, 1886, she performed total extirpation for a large myoma complicated with immense pus tubes. . . . For ten years after the publication of the case of Burnham in 1878, until the operation of Dr. Jones, no permanent improvements in hysterectomy were invented in this country. All that was done was to try to improve on the methods of Schroeder.

¹ *Obstetrical Transactions*, 1864, p. 66.

appeared to me quite possible for a female to recover with the uterus extirpated."

Dr. Clay's second operation for hysterectomies for fibromyomata was January 2, 1863, which he called "total hysterectomy," but it was not a total extirpation. He did not in this case quite come up to the light he had. His great soul was drifted from the clear proceedings by the kindly thought of leaving in the woman a perfect vaginal canal. Still it was a beautiful operation, and beautifully performed. He says: "The tumour appeared to be five or six pounds, filling a large portion of the pelvic basin. I made an incision of eleven inches, when a large tumour came in view, of very irregular shape, one portion of which was firmly imbedded in the pelvis, and with great difficulty could be dislodged. The right ovary was diseased, but not much enlarged. I dissected the broad ligaments from the tumour, and securing them by ligatures divided them, and continued my progress down to the cervix. Having satisfied myself, by passing my finger well around it, I placed a ligature on it just immediately above the plane of the os, consisting of three strands of strong Indian hemp, and then divided the cervix. My intention in so doing was to secure the os itself for the summit of the vaginal canal, and to keep entire the vagina in its full integrity, rather than run the risk, as I had done in a case of 1844, of gathering together within the ligature the vaginal coats just below the os; in that case, if it had recovered, I should have had a short and contracted vaginal canal, with less certainty of healing. In the present case I placed full reliance in the powers of nature, by the help of the ligature, to obliterate the passage through the os, and prevent the admission of air (so much feared by many) within the abdominal cavity. The tumour was removed with trifling loss of blood. The integuments were brought together and secured with six interrupted sutures, bandaged, &c., and the patient placed comfortably in bed in about fifteen minutes from the commencement."

"Immediately after the operation Professor Simpson arrived from Edinburgh, and carefully examined the tumour as well as the patient, in which he felt great interest. At his special request the tumour was forwarded to Edinburgh for more minute investigation. I have since received from him the following remarks, which I have extracted from his letter dated January 21, 1863: 'I have repeatedly and carefully examined the mass of fibroid which you extirpated. The os uteri is not included in it, but the cervix uteri appears to have been divided and cut through immediately above the plane of the os. . . . The whole mass weighs eleven pounds and consists of the entire body and the cervix up to the os, with a large mass of fibroid tumours growing in the walls. Your case may turn out as a precedent for operative interference in some exceptional cases of large fibroids of the uterus.—Yours, J. Y. SIMPSON.'"

Dr. Clay says: "On February 6, 1863, thirty-five days from the operation, my patient returned to her friends, and bore a railroad journey of forty miles without inconvenience. This," continued Dr. Clay, "is the first operation of the kind established as a cure in the British dominions. The case of 1844, as far as the operation and immediate consequences were concerned, was decidedly successful." In a note Dr. Clay, referring to this operation—which he said was the first operation in the world where both uterus and ovaries were extirpated through the abdominal walls—remarks: "It is necessary to make this statement as Prof. Kœberle, of Strasburg, thought he had performed the operation first on April 20, 1863. My first was January 16, 1844; my second, January 2, 1863."

Kœberle in his operations did not do total hysterectomy. His method was according to Clay's second case, and Kœberle continued to improve in the *wrong direction* till he had made the pedicle long enough to extend to the abdominal incision; and in 1868 he established the extra-peritoneal treatment of the pedicle, with the adoption of the metallic means of compression (the *serre-nœud*). Thus he

led us into the wilderness, as thousands of cases testify. Péan's first operation was in 1864, and he helped Kœberle perfect and establish the procedure of the extra-peritoneal treatment of the pedicle. Pozzi says: "It is therefore to two French surgeons, Kœberle and Péan, that the merit belongs of having established this operation on a scientific basis. . . . The extra-peritoneal treatment, to which are joined the names of Kœberle and Péan, the originators, and of Hegar, who has brought it to a higher degree of perfection."

Péan¹ says: "It is in our epoch that the operation for abdominal tumours has made the great progress which we all recognise; in no department has the courage of surgeons progressed so far; in no direction have the results been so remarkable." Caternault,² a pupil of Kœberle's, tells something of the history; he gives 76 cases and 53 deaths. Péan and Urdy in their work, 1873, page 15, give by different surgeons 44 cases with 30 deaths. Pozzi says in 1875 he was able to collect 119 cases with 74 deaths. Dr. Granville Bantock³ says: "At the meeting of the British Medical Association, 1880, Sir Spencer Wells reported 60 cases, in which the operation was completed in only 34, with a mortality of about 53 per cent."

As in ovariectomy the clamp led from the ligature of McDowell, so in hysterectomy the extra-peritoneal treatment of the pedicle led from the simplicity of Charles Clay's first operation.

*Preliminary case of Dr. Bardenheuer by extra-peritoneal treatment of the pedicle.*⁴

The patient was strong and in a fairly good condition, showed a large, hard, nodular tumour in the abdomen, easily

¹ Péan and Urdy, "Hysterotomie," 1873.

² "Gastrotomy in peri-uterine fibroid tumours." Thesis. Strasburg, 1866.

³ *British Medical Journal*, May, 1893, p. 80.

⁴ "Die Drainirung der Peritonealhohle; Anhang die Total Exstirpation des Uterus wegen Fibroid." Stuttgart Enke, 1881, p. 271.

removable. The uterus, somewhat enlarged, moved with the tumour. Both ovaries were enlarged, smooth and easily movable.

Diagnosis.—Fibroid tumour of the uterus.

Operation, January 14, 1881.—An incision in the abdomen from navel to symphysis pubis, with a small transverse incision into the recti muscles; the tumour, which was connected with the uterus by a thin, slim pedicle, was raised out. On the posterior walls of the uterus were two quite small growths. The uterus was pierced near the cervix with a trocar armed with rubber tubes. The ends of the rubber tubes which were put through were brought to the front through a cut in the broad ligament, then tied together so that the uterus was ligatured in two parts. A little above the ligature the cervix was transversely severed, and the uterus removed with the tumour. Two long needles were thrust through the stump of the uterus which rested upon the walls of the abdomen. The stump was placed in the lower angle of the abdominal wound. The neighbouring peritoneum was closed around the stump, and the wound of the abdomen united with a silver wire, and the antiseptic bandages placed on. The operation lasted about two hours. The patient seemed vigorous, pulse weak. Afternoon—temperature 31.1° , pulse 84, breathing 24. Patient complained of pain in the abdomen; opium injections. The bandages removed; much blood on the bandages, also from the stump came blood. Drying, cauterisation and new bandages. Evening—temperature 37.7° , pulse 92, breathing 28. Change of bandages, stump bloody, drying, cauterisation. Urine removed by catheter.

January 15, second day.—Morning—temperature 37° , pulse 96, weak, breathing 24. The bandages changed, stump still bloody, drying, cauterisation, cleansing of the drainage tube with carbolised feather, opium on account of violent pains, inclination to vomiting. Noon—temperature 38.4° , pulse 100, breathing 28; changing of the bandages, washing out through the tubes with 1 per cent. of carbolic

water. The liquid was coloured bloody. Evening—temperature $38\cdot4^{\circ}$, pulse 120, breathing 28; morphia injections on account of violent pain in the abdomen.

January 16, third day.—Morning—temperature $37\cdot4^{\circ}$, pulse weak and very frequent, breathing 28, tongue covered but moist. Pain in the abdomen diminished, the bandages changed; on the stump always some blood but no pus. Abdomen not swollen. During the evening, temperature $37\cdot9^{\circ}$. Patient collapsed, quiet; changing of the bandages, the stump taken out by force; much pus mixed with blood came out of the depths. Two drainage tubes were placed near the stump, and through them the peritoneal cavity washed out with carbolised water. The patient got weaker and weaker, and died at 2 o'clock at night.

Autopsy, twelve hours after.—In the folds of the peritoneum which led from the stump was bloody pus, the neighbouring intestines were covered with peritoneal exudations.

The death in this case occurred because the ligature around the stump was not tight enough, in consequence of which blood came through, of which a part went into the abdominal cavity, which did not close itself around the stump, or had not been partitioned off from the stump. The sewing up of the walls of the abdomen near the stump was not so entirely closed that no communication would have been possible. The peritonitis was not suspected because the abdomen was not swollen. The unfavourable progress was shown only by the weakness and frequency of the pulse.

*The Preliminary Case in America by Extra - Peritoneal Treatment of the Pedicle, with Remarks made at the time that it was reported.*¹

On August 15, 1887, an emaciated little East India Mulatto called at the out-door department of the Woman's

¹ *New York Medical Journal*, September, 1888, page 200; *New York Medical Record*, September 6, 1890, page 257; *American Journal of Obstetrics*, vol. xxxiii., No. 3, 1896.

Hospital of Brooklyn. She was 35 years of age, had one child, 20 years old, and had been sick since its birth, with constant pain and distress in the abdomen. The last six or seven years had been the period of her greatest suffering; severe cramps several days before menstruation, pain, sick stomach, vomiting, and then would follow uterine hæmorrhages lasting fifteen days or more, leaving the patient perfectly prostrated, weak, sick, and incapable of any kind of labour. During the last three years there had been scarce a day's interval entirely free from hæmorrhage, the regular menstrual period being recognised only by the increased flow with more severe and continued cramps. The patient was extremely weak, anæmic, with feeble pulse, and apparently she could not stand much more. I found the uterus enlarged by an intermural myoma, the tumour commencing at the internal os, suddenly increasing in size, and extending an inch above the umbilicus; the lower portion was wedged tightly down into the small pelvis. The patient again called, she was still bleeding and growing weaker. In October, 1887, she was admitted into the Woman's Hospital of Brooklyn, was placed immediately in bed, and had the most careful nursing, the best nourishment and constant medical attention. She continued to bleed, was growing weaker, and less able to help herself; still complaining of great pressure and distress in the region of the bladder and rectum, the functions of which organs were interfered with. It was decided to perform hysterectomy without delay; accordingly, on November 15, after the usual preparations, the operation was performed. An incision six inches in length was made in the abdominal walls. The omentum was firmly adherent in many places. After separating and tying I passed my hand around the tumour to free other adhesions, which were most numerous in the region of the uterine appendages. The incision had to be enlarged, and after liberating the adhesions with one hand under the tumour and the other with Tait's screw, the mass was lifted from the abdominal cavity. There was

no little difficulty in tying off the broad ligaments, and yet there were graver difficulties in securing the pedicle. With the help of my assistant, Dr. Charles N. D. Jones, a temporary clamp was placed around the tumour, the peritoneal covering was cut, and the body removed and many small fibroids shelled out; then lower down a wire clamp was applied and still more of the mass was cut away and more small fibroids removed. The pedicle thus secured, was transfixed with pins and placed in the lower angle of the abdominal incision; the peritoneal edges were brought closely around it, a drainage tube was placed in the upper part of the wound extending to the lower part of the pelvis, and after closing the abdominal walls the usual dressings were applied. When the operation was completed the patient's pulse was 125, temperature 97° F. The same evening the wound was redressed, and two ounces of bloody serum drawn from the tubes.

Second day.—Dressings renewed, tube emptied three times; pulse 125, temperature 101·7° F.; urine passed naturally.

Third day.—Same treatment, three turns given to the screw; pulse 120, temperature 101·5° F.; natural evacuation of the bowels.

Her temperature now went down to 100° F.; dressings changed every day; drainage tube removed on the seventh day, and when removed there spurted out great quantities of pus; the pus cavity extended to the stump, and the pus was in such quantity that for several days it was drawn off by a glass syringe and the abscess washed out. The patient was apparently very comfortable, natural evacuations, and a good appetite. On the fifteenth day the stump came off, leaving a healthy granulating cavity which soon healed. The patient continued to improve, gained in strength every day, and no happier face was in the hospital than that of this long-suffering woman. She said she was better and more comfortable than she had been for twenty years.

December 20.—Wound entirely healed, patient able to sit up.

January 5.—Patient walked perfectly well and with ordinary strength.

May 5 and July 18.—Patient strong and in excellent health, able to attend to her ordinary duties.

The pedicle in this case was so extremely short that it was necessary to make great traction in order to get it into the abdominal incision. I thought for a moment of adopting Billroth's management of the pedicle, as I saw him proceed when I was in Vienna in the fall of 1886, and about as pictured in Gerster's late work on Surgery, but the stump was so large and so low down in the contracted pelvis that this would have been attended with almost insurmountable difficulties, especially as the pedicle was composed of a portion of the tumour; so I did not dare to trust to this method. The *ligature* was out of the question, though Thomas Keith says, in the *British Medical Journal* for December 10, 1887, "I am satisfied the best results in hysterectomy will be got by the ligature." A few years before he had said: "Muscular tissue is ill adapted to bearing a ligature. You tie it as tightly as you can draw the threads, and in an hour or two the muscular tissue has contracted and internal hæmorrhage goes on." Emmet says in his work, page 611, "I am disposed to the belief that there can be no likelihood of even an approximate success to that after the removal of an ovarian tumour until the stump can be treated with safety in the same manner by being returned to the abdominal cavity." He says elsewhere: "If myotomy was to have a future it would have to be done by covering the stump with the peritoneum and dropping it into the peritoneal cavity" (*American Journal of Obstetrics and Diseases of Women and Children*, January 5, 1885, p. 85).

In 1886 I saw Schroeder, of Berlin, in a number of cases manage the pedicle intra-peritoneally, and the patients did well; yet Schroeder's published statistics are 32 deaths out of 100 cases. I saw Martin, also of Berlin, several times treat the pedicle by the same method, and as reported at the last Medical Congress he lost 27 out of 84, while

Bantock, by the extra-peritoneal method, reported a mortality of 12 out of 72, and he said that with him "the intra-peritoneal method has been as uniformly disastrous as the extra-peritoneal had been successful." Bantock said, in the BRITISH GYNÆCOLOGICAL JOURNAL, May, 1886: "In every case in which he had trusted to a ligature a fatal result had ensued, and he would not resort to it again; while in similar cases treated by the *serre-naud* he had not had a moment's anxiety."

Dr. S. C. Gordon, of Maine, reports two fatal cases of hysterectomy, 1871, 1883. Ligature to the pedicle in both cases. Gerster, in his work on Surgery, says of a case of hysterectomy: "The smallness of the stump induced the author to treat it like an ovarian pedicle, and it was placed in the abdominal cavity, after securing the elastic ligature, by a knot of strong silk." The further record is: "The author's only case of supra-vaginal hysterectomy ended fatally by septicæmia." Gregg Smith, says: "The dangers of intra-peritoneal treatment are nearly twice as great as the extra-peritoneal."

But even when the stump is treated extra-peritoneally there are many dangers and may be much trouble. We may seek to produce the best conditions, but there are still foul septic discharges, and, if the patient recovers, it is only the question of escaping the many dangerous possibilities. At best the stump is a hard fibrous mass, extending from the vaginal to the abdominal walls and pulling upon both. In this case I have reported, the traction upon the abdominal walls was so great that it made a considerable sink or depression in the surface, and caused such pressure from the pins that, notwithstanding every care and all possible disinfections, keeping constantly fresh gauze under the pins, yet beneath them the skin sloughed, and with all this there were the threatening dangers of sepsis, abscess, &c., from the decaying stump. Is a course of procedure the wisest that is necessarily accompanied by, or may encounter, such grave conditions? What is the good of preserving

the stump intra- or extra- peritoneally? It is only the remnant or remains of a sickly womb and can be of no service, and may do much damage—how much who can tell—not only at the time of the operation, but in the subsequent history of the patient.

In both methods of operation, extra- or intra- peritoneal, it is the stump that makes the difficulty; it is the source of most of the danger, and statistical history shows that the great mortality of this operation is due almost entirely to unfavourable conditions originating in, or generated around, the stump. Emmet reports a case (page 614): "The stump was almost all cut away, leaving only enough of the cervical tissues to hold the ligatures from slipping off, and it was so covered as to be placed outside of the peritoneal cavity, yet on the fourteenth day the patient died from rupture of an abscess." This distinguished author says further: "I have removed the whole or portions of the uterus in five instances, and, notwithstanding the greatest care to insure a favourable result, all the patients died, sooner or later, with blood poisoning generated about the stump." Shall we say it is a safe method when it is so frequently fatal in the hands of our best operators? It is not the operation, or the method of operation, but it is the danger which is inherent in this method of procedure.

When I presented Case I. of this paper before the New York Pathological Society, November 23, 1887,¹ I stated that I believed a better and more natural procedure would have been, after opening the abdominal walls, being assured of the condition of affairs, and liberating any adhesions that might exist, then to have severed the vaginal connections, as in kolpo-hysterectomy, and to have removed the entire uterus; or, if the body of the tumour or uterus was removed through the abdominal incision, then to remove the uterine stump *per vaginam*, and after "*la toilette du*

¹ *Medical Record*, December 24, 1887, page 802, and *New York Medical Journal*, September, 1887, page 200.

peritone" close the abdominal wall and *leave the vaginal opening as the best and most natural way of drainage*. I also gave in a few words the following reasons: This procedure would — First, have very much shortened the operation, as most of the time was taken up in securing and placing the stump. Second, there would have been less shock to the patient. At the end of the second day after the operation, there was more evidence of shock in the patient than at the close of the operation, which no doubt was due to the strain and nervous tension caused by the constant pulling of the pedicle. Third, this mode of procedure would very much lessen the dangers of the operation, not only in diminishing the shock and shortening the time of the operation, but principally that *it gets clear of the stump, et tous ses douleurs*. Fourth, the patient would make a more rapid recovery. The vaginal wound would heal very much more quickly and naturally than the encircled stump, and would be attended with less complicating difficulties; besides, it seems to be *nature's natural outlet*.

Description of the Tumour.—All that was apparently left of the uterine structure was the thin layer of muscular fibrous tissue, half an inch in thickness, which surrounded and held tightly and firmly a mass of fibroid growths.

The Uterine Appendages.—The right ovary was small, measuring an inch by an inch and a half, shrivelled and cirrhotic in appearance and encased in a mass of adhesions. The ovary showed chronic oöphoritis with acute relapses. No doubt in the frequent attacks of oöphoritis in the twenty years of suffering, the fibrous connective tissue had been repeatedly broken down into inflammatory corpuscles, and then as repeatedly changed to fibrous connective tissue.

The wall of the cyst was composed of different layers of inflammatory deposits. In one place there was a narrow portion of normal cortical substance, and in this little island, amid a sea of desolation, were seen securely lodged three normal ova, but no possible chance for these little life cells to ever fulfil their physiological destiny; yet nature

always did her best to perform a function or to perpetuate life. Many of the arteries showed arteritis and endarteritis, some entirely obliterated, others in a state of waxy degeneration, the endothelium being changed to fibrous connective tissue. The left ovary was only a thin membranous sac half an inch in diameter; no normal ovarian tissue and no ova were seen. The pathological condition of the tube gave evidence of long-continued chronic disease; probably at one time it was hydro-salpinx.

The First Total Hysterectomy for Myo-fibromata of the Uterus. By Dr. Bardenheuer.¹

Dr. Bardenheuer says: The thought to overcome the uncertainty of the supra-vaginal operation caused by the gangrene of the uterine stump, was brought into action for the first time in April of the year 1881.

Case I.—Miss H., aged 49. Patient observed a year ago a swelling of the abdomen, which troubled her a little by its weight, but otherwise did not cause any trouble. Menstruation regular, patient in fairly good condition, abdomen moderately swollen. Through the abdominal walls one could feel an easily movable flat tumour. Vaginal examination showed a pear-shaped tumour connected with the uterus, and on the posterior wall of the uterus a protuberance, the size of a pea; right ovary enlarged and uneven.

Diagnosis.—Cystic degeneration of the right ovary, cyst of the left, two uterine fibroids, a large one pedunculated, a second small one which is just developing. During the two days previous to the operation the patient received small diet, purgatives and bismuth.

April 9, 1881. Operation.—The patient placed with her head against the window, on cushions filled with sand, in

¹ "Die Drainirung der Peritonealhölle"; "Anhang die Total Exstirpation des Uterus wegen Fibroid." Stuttgart Enke, 1881, p. 271.

such a way that the pelvis comes to lie on an inclined plane, which allowed the light easily to penetrate into the pelvic cavity, and at the same time facilitated the retention of the intestinal knuckles in the upper part of the peritoneal cavity;¹ arms and legs in double-walled rubber covers, which are filled with hot water, thorough disinfection of abdomen, vagina, and vulva. Incision in abdominal walls, and to prevent the separation of the peritoneum from the cover of the abdomen during the operation, the peritoneum was connected by some stitches with the outward skin. Puncture of the cyst, which appeared, dark fluid evacuated. The walls of the cyst ligatured and removed. The uterus bore on its fundus a large pedunculated fibroid, and on its posterior surface were small knobs as big as a pea. The uterus was easily lifted out of the pelvic cavity. The bowels lay collapsed near the back or posterior wall of the abdomen; they were covered with a compress wrung out of warm thymol solution and easily held back by the hand, so that during the whole operation they did not come out of the abdomen. On account of the strength of the patient, and on account of the unfavourable outcome of the last operation, total extirpation was performed.

(Mit Rücksicht auf den guten Kräftezustand den Patienten und auf den ungünstigen Verlauf des letzten Falles wird zur total-exstirpation geschritten).

The uterus was seized with forceps, the tubes on each side ligatured and severed, the broad ligaments cut in separate parts, and a small transverse incision made between the bladder and the anterior lip of the cervix opened the vaginal vault. This opening was dilated with blunt instruments. In a similar manner the posterior vaginal vault was opened from Douglas' pouch. The blood vessels were tied,

¹ This evidently is the position now known as "The Trendelenberg position." Noaggarath used it as early as 1873; and in the Woman's Hospital of Brooklyn, between the years 1884 and 1890, we repeatedly used this position in our abdominal operations.

and the uterus now hung with its adjoining tissue on each side of the cervix. These held the uterine arteries. These were tied tight with strong thread and severed. The uterus was now wholly separated; the loss of blood was moderate.

The edge of the opening in the peritoneum was stitched with catgut to the corresponding edges of the mucous membrane of the vagina. A drainage tube was inserted through the vagina into the peritoneal cavity and here fastened with a catgut suture. The right ovary, which held small cysts, was ligatured and removed. The peritoneum was washed out with 2 per cent. solution of warm carbolic water and dried with sponges. Sewed the wound in the abdomen with silver wire, including the peritoneum. A small drainage tube was now laid in because the walls of the abdomen were very thin. Antiseptic bandages on the abdomen, and in the vagina antiseptic gauze and cotton, fastened by a cross bandage. By this means one could cleanse the drainage tube without being compelled to take off the abdominal bandage every time.

The pulse of the patient after the operation, which lasted not quite one and one-half hours, was pretty strong and slow. Afternoon—temperature 37.1° , pulse 66, breathing 24, no vomiting. Evening—temperature 37.6° , pulse 76, breathing 22.

Eleventh day.—Temperature 37.4° , pulse 84, breathing 22. Patient had good sleep and felt well. On the tenth of May, at the end of one month, the patient was able to be up.

We could not have the same confidence in the success of an operation after a fibroid extirpation as we usually have after a complete uterine extirpation. In fibroid extirpation we have to do, nearer the stump, with a piece of tissue condemned to gangrene, and situated in close proximity to the peritoneal cavity.

The First Total Hysterectomy for Myo-fibromata of the Uterus in America,¹ performed February 16, 1888.

Mrs. H. S., a Swede, called to see me on January 17, 1888; aged 40, twice married, never had any children. The menstrual periods recurred every two or three weeks, lasting from eight to ten days, the flow being hæmorrhagic. Examination showed a uterine myoma extending from the cervix to within an inch of the ensiform cartilage, and much larger than the uterus at term. The lower portion of the tumour was hard and firm, filling tightly all the space between the cervix and pubic bone, pushing the cervix far back and up, from which position it could not be moved in the least, and it was quite as impossible to pass a sound into the uterine canal. Beneath this portion of the tumour the bladder spread out; a sound in the bladder passed directly down to the cervix.

This growth had evidently existed for many years, but was becoming more and more a source of distress and oppression, exhausting the patient by its own weight, interfered with her breathing, and was such a burden that she could with difficulty turn from side to side in bed, and frequently had to rise from her bed and stand up to find relief. Its enormous size incapacitated her for any kind of employment; she could not bend over, and if she was much on her feet the pressure gave her neuralgic pains in her limbs, of which she frequently had most severe attacks, "rolled on the floor in agony," and found relief only by hypodermic injections of morphine. From time to time she had consulted several well-known practitioners. They all told her the tumour could not be removed; that the attempt to remove it would cause her death. She replied she would rather die than endure the constant

¹ *New York Medical Journal*, August 25 and September 1, 1888, p. 202. The tumour presented with the report before the New York Pathological Society, February 22, 1888. *Medical Record*, March 31, 1888, p. 367.

torment; that "often she had felt that she must kill herself." She was ever conscious of the presence of the tumour, often awaked at night with a distressed agony of mind only to find it still there. It was such a mental distress that even her well balanced mind and strong nervous system seemed ready to give way. She was becoming a wreck mentally and physically. Her emaciated body was only a framework to support and transport the growth. Naturally a strong vigorous woman from a long-lived family, now, at the age of 40, she was old and worn out, reduced in health, strength and flesh, and was failing rapidly. Her husband said she had failed more during the last six months than for three years previously.

Some say "Such tumours do not kill." Thomas Keith¹ said, "A tumour that has a limited active existence, and that of itself, rarely shortens life." Certainly in this case the tumour was killing the patient, rapidly exhausting her vital powers, and evidently shortening her life. It was interfering with every vital function, and rendering every one more inefficient, and every organ abnormal. This tumour had existed for many years, and was still in a state of active growth. Emmet told the history of many, when he incidentally remarked of one of his patients: "The tumour gradually increased in size, and in a few years after she died of exhaustion." Dr. Matthew Mann said: "That fibroid tumours do cause death, even before reaching a great size, I have had several opportunities of observing."

I do not believe a woman can have a fibroid tumour, however small, without having direct and sympathetic troubles, for the tumours not only may produce various uterine misplacements, with the accompanying evils and distresses, but they encroach upon normal structure, derange, change, and destroy it; disturb normal functions, are a constant irritation to the organic system of the nerves and by sympathetic troubles and reflex irritations, the

¹ *British Medical Journal*, December 10, 1887, p. 1259.

injuries they produce are more than we can measure or calculate. They render the whole being physically and morally incompetent. Nature is intolerent of them, and the patients are worn out by the disorders resulting from the fibroids. Thomas says: "They disorder the mind, produce dangerous mental depression and anxiety, and disturbances of the functions of nutrition, and slowly drag the patient down to death." Goodell says: "Nothing worries a woman more than the discovery of a tumour in the abdomen. By sheer brooding I have seen one woman become insane and another go into a decline." A pregnant woman has to carry her burden only a few months, and all the time with a happy idea, and assured prospect that it will soon end, and she will have inexpressible joy; she is happy and comforted; her very soul holds communion with the little being; yet even for that short time, and with such joyful anticipation, she is wearied and worn out with the burden. But a woman with a fibroid tumour—ah! she has all the time the *dead* burden. No hope of relief, no anticipation, only a sickening prospect, gloomy forebodings and the saddest possibilities! "Such a misery," said to me a patient who had carried the burden for many years. "Let people say it is nothing; carry it for one week!"

This patient, Mrs. H. S., was admitted into the Woman's Hospital of Brooklyn, February 5, 1888. The operation was performed February 16. As she lay on the operating table under ether the body seemed a mere skeleton; the monstrously large and nodulated tumour filled the whole abdominal cavity, extending up to, and under, the ribs. A small exploratory incision was made first, midway between the umbilicus and down to the pubes. I passed my hand in and around to free adhesions, then by means of Tait's screw, with the left hand beneath, the mass was lifted out of the abdominal cavity. The right tube was greatly enlarged, presented the appearance of a coiled up and adherent mass of intestine; the left tube was also adherent, its fimbriated extremity closed and the tube filled with pus. The broad

ligaments were tied off, and the temporary rope clamp thrown around the tumour, a great portion of which was cut away; then Kœberle's clamp was screwed on lower down, when other portions of the fibroid were enucleated. The pedicle thus secured consisted of a mass of tumours, one of them three inches in diameter, all closely packed, reaching to the cervix. I knew that to make a pedicle of this mass would not only endanger the patient's life, but render the operation unfinished and imperfect, so I decided at once to proceed as in kolpo-hysterectomy for the removal of this portion. Dr. Charles N. D. Jones took charge of the abdominal wound, temporarily closed and covered with aseptic gauze, and greatly assisted me by forcibly pushing down the cervix with the contained tumours. I rapidly separated the vaginal attachments, carefully preserving the bladder and ureters intact. Still the large size of the tumour would not allow the cervix to come down sufficiently to secure the broad ligaments; so after clamping as much of the broad ligaments as possible from the vaginal opening, I passed a pair of forceps through the vagina, and requested Dr. Jones to assist in guiding the blades so that they would fully clamp the broad ligaments. The mass of tumours, on account of their size, had finally to be delivered through the abdominal opening. The handles of the large forceps which clamped the broad ligaments were left projecting from the vaginal wound, the peritoneal cavity was washed out, the abdominal wound closed and dressed, the vaginal wound left open for drainage and treated as in vaginal hysterectomy.

In one report the mistake was made, probably typographical, of representing these large forceps as projecting from the abdominal wound. This would have been impossible, and the correct presentation was made in an article in the *New York Medical Record*, September 6, 1890, which says: "After separating the vaginal connections large forceps were passed up from below, guided by the hand of my assistant, to clamp each of the broad ligaments. The size of the tumours in the cervix or pedicle rendered it

necessary to deliver the mass through the abdominal opening. The large forceps which clamped the broad ligaments projected from the vaginal opening and were left on for thirty-six hours. Smaller forceps clamping the vaginal wound were left on twelve or twenty hours."

By thus removing the cervix or the entire uterus, we not only got clear of the stump but of the great mass of loose tissue which surrounded it, and which, if it had remained, would doubtless have produced the most serious consequences; and this is probably an explanation of why the report has so frequently to be made of death on the ninth, twelfth, or fourteenth day from abscess near the stump. I do not see how in this case, with every precaution, the formation of an abscess could have been prevented in so much loose tissue.

It was marvellous to see how much more rapid was the convalescence of the patient than it would have been had not the stump been removed. My case of supra-vaginal amputation reported in this paper, with the stump in the abdominal wound, looked as she lay in bed as if she was constantly held down by a ton weight, which made her almost helpless and motionless; but this patient, pinioned by no stump, moved easily from side to side, was extremely agile in her movements, actually got out of bed on the seventh day, and was practically well on the twelfth or fourteenth day; had a good appetite and had gained in flesh and strength. No such results could possibly have been secured if the stump had been left.

The tumour was presented before the New York Pathological Society, February 22, 1888.¹ Dr. Charles N. D. Jones, in a letter to the *American Journal of Obstetrics*,² said: "The proposed operation was modified to suit the exigencies of the case. The abdomen was first opened and the mass of the tumour removed above, a wire *serre-nœud*

¹ *New York Medical Record*, March 31, 1888, p. 367.

² April 11, 1888, p. 604.

encircled the cervix. The abdomen then temporarily closed and the vaginal connections were severed from below. This was the most difficult part of the whole operation, from the fact that a portion of the myoma occupied the cervix, so that it could not be drawn down into the vagina. The cervical tissue down to the os externum was filled with nodular masses. After the cervix was freed the thumb and the index finger of an assistant were made to straddle the right and then the left broad ligaments from within the pelvis, so as to serve for a guide in passing the blades of a pair of forceps from below around each broad ligament."

In another article Dr. Jones¹ says: "The abdominal cavity was opened by an eight inch incision, the mass of the tumour drawn out and the broad ligaments ligatured. The tubes on each side were largely distended and filled with pus. These were removed and the tumour mass enucleated and a Kœberle's *serre-nœud* applied to the pedicle, which measured four and one-half inches in diameter. The abdominal opening was now temporarily closed. The patient was drawn to the edge of the table and the remaining uterine attachments severed through the vaginal opening. This was a more difficult operation than is ordinarily the case, because the uterus could not be drawn down on account of the mass filling its lower portion.

"The uterus was completely removed, all bleeding points being tied with silk ligatures. The loss of blood was trifling, and the patient was put to bed with a pulse about 90. Recovery was uninterrupted. On the tenth day the patient was up, and said she felt quite well.

"By this method of dealing with the stump the patient escapes all those dangers which must necessarily attend the leaving of the uterine stump, whether treated by the intra- or extra- peritoneal method. I believe this method is destined to revolutionise our treatment of uterine myomata."

¹ *International Journal of Surgery and Antiseptics*, April, 1888, p. 68.

REMARKS.

Dr. Noble, in his article on page 72, compares, for the years 1894-95-96, the statistics of supra-vaginal amputation for myo-fibromata of the uterus with those of total hysterectomy, giving the work of five operators for the first and of four operators for the second, saying: "It is believed that the results of a few well-known gynæcologists for a definite length of time, will give a more correct approximation of the present mortality of the operation than a collection of cases from a larger number extending over varying periods of time."

If this be so why may not I present the statistics of the few operations mentioned in this paper as "a correct approximation of the present mortality of the operation?"—of course leaving out the case of 1844 and the one of 1863. The operations are "few" in number, and "for a definite length of time."

Dr. Noble says further: "A comparison of the tables presented indicates that the mortality of supra-vaginal amputation is a little more than one-half that of total extirpation for myo-fibromata of the uterus." Referring again to my table I find Dr. Noble's decision reversed. The mortality of supra-vaginal amputation is greater than that of total hysterectomy.

The author further says: "His table," he believes, "represents the relative risks of the two operations." In reply, I believe my table more truly represents the "relative risks" of the two operations.

But there is another factor, and surely Dr. Noble will recognise that it is hardly just or fair to compare the results of supra-vaginal amputation for fibroid with total hysterectomy for the years 1894-95-96, one method being old and well cultured, and the other regarded as comparatively new. Supra-vaginal amputation has long been adopted, its *technique* has already been brought to a great degree of perfection by the assiduous and beautiful efforts of many great and able surgeons, while total hysterectomy for fibroids

has been comparatively little practised. As time goes on the *technique* of this new method will be immensely improved. The *technique* of any operation in the hands of wise surgeons, conscientiously and with the highest aims and noblest heroism trying to save human life, will necessarily improve, will make sure and onward advances towards perfection.

Do not these great possibilities of improved *technique* still more emphasise the fact that the two methods should not, for the years 1894-95-96, be brought into comparison to indicate the relative mortality of the two operations? Would it not be more correct and more in accordance with general usage to compare the early record of total hysterectomy for fibroid with the early records of supra-vaginal amputation? and even here there are many modifying circumstances. Surgery in every department has made great advances; still for a moment we will glance at this comparison. One of the earliest hysterectomies in this country was by Kimbell, and in 1875 he reported 9 with 6 deaths. Burnham, in 1877, 16 hysterectomies, 12 deaths. Thomas¹ gives the following:—"Pozzi (1875), 119 cases, 77 died. Boinet, 46 cases, 34 deaths. Storer (1866), 24 cases, 18 deaths. Thomas ('Diseases of Women,' 1874), 12 cases, 11 deaths. Schroeder, 108 cases, 78 deaths." Koeberle, up to 1866, had saved 8 out of 42. Péan, in 1876, had lost 8 out of 24 cases. Kimbell, at the meeting of the American Medical Association, 1877, remarked that to his knowledge the real statistics of hysterectomy were far worse than the published reports would indicate; that there were a great many fatal cases which never were presented.

Dr. T. A. Emmett,² in his work, gives the following statistics: "Billroth (1882), 25 cases, 15 deaths. Savage (1882), 9 cases, 3 deaths. Thomas (1882), 13 cases, 6 deaths. Burnham (1884), 10 cases, 8 deaths. Olshausen (1883), 12

¹ "Diseases of Women," 1880.

² "Principles and Practice of Gynæcology," 1884.

cases, 4 deaths ; adding, the whole table gives 395 cases, 132 deaths." Hoffmeier,¹ of the intra- and extra- peritoneal, reports 881 operations, 204 deaths ; of the extra-peritoneal, 200 operations and 30 deaths. Krug² said in 1891 : "The tables compiled by Wehmer in the *Zeitschrift f. Gynækologi* show a mortality of 24 per cent. in 262 operations performed by nine eminent surgeons." Schroeder,³ at the British Medical Association, 1883, said : "Of 66 patients on whom I have operated, I have lost 20." Besides this Schroeder collected reports of 73 cases, of these 55 died. Sir Spencer Wells⁴ gives his results in 1883 : "20 deaths in 39 completed operations." Knowsley Thornton⁵ the same year, 12 cases, 5 deaths ; total 31 uterine tumours, 10 deaths. Thomas Keith puts this result of Thornton thus, "1 out of every 3 died." In 1887 the mortality in the best hands was over 33 per cent., and the real mortality was fully 75 per cent., if all cases could have been recorded. The same year Thomas Keith⁶ said : "Hysterectomy is an operation which has done more harm than good, and its mortality is out of all proportion to the benefits received by the few. What is the mortality of this operation now so often and so unnecessarily performed ? We shall never know. I put it at 25 per cent., though it is probably much higher ; in other words 1 out of 4 women operated on for hysterectomy has till now died after an operation for the removal of a tumour that has, as a rule, a limited active existence, and that of itself rarely shortens life. I have never been in favour of hysterectomy simply because its death rate is so high, and because it is performed for the removal of a tumour that rarely kills."

Dr. Noble, in his published article, 1897, says : "The

¹ Hofmeier's "Gynækologische Operationen."

² *New York Journal of Gynæcology and Obstetrics*, 1891, p. 13.

³ *British Medical Journal*, 1883, vol. ii., p. 714.

⁴ *Ibid.*, December 8, 1883, p. 1116

⁵ *Ibid.*, October 13, 1883, p. 712.

⁶ *Ibid.*, December 10, 1887, p. 1257.

present statistics of supra-pubic amputation is 5 per cent." He goes further, saying, "The risk in some conditions being not more than 1 or 2 per cent." Mr. Bowreman Jessett¹ says: "The mortality after this operation in most skilful hands is at least 15 per cent., but in the hands of the less skilful operators, the mortality is undoubtedly higher." In 1895 Mr. Jessett said: "I believe I am within the mark when I say it is now at least 15 or 20 per cent. Dr. Christopher Martin³ says: "Supra-vaginal amputation has a mortality of 15 to 30 per cent." Dr. Granville Bantock⁴ before the British Gynæcological Society, April 27, 1893, said: "That in 147 extra-peritoneals he had 22 deaths, under 15 per cent. If he had added to this his 9 cases of intra-peritoneal treatment with the 7 deaths, the percentage would have been over 15."

Now for a moment let us glance at the early records of total hysterectomy for myoma. In Dr. Bardenheuer's first 7 cases he had 6 recoveries. Prof. Louis A. Stimson⁵ reported to the New York Surgical Society 4 cases, all successful. Dr. Krug⁶ presented to the New York Obstetrical Society, December 13, 1891, 6 cases of total hysterectomy for fibroid, and 1 death. Dr. W. F. Smyly (before the British Gynæcological Society), March, 1892, reported 3 cases, all successful; his first case, June, 1891. Prof. Wm. M. Polk, before the American Gynæcological Society, 1892, reported 18 cases of total hysterectomy and 2 deaths. Dr. Noble in his paper gives his further record: "Dr. Wm. M. Polk, 1894-95-96, 24 cases, 1 death. Dr. H. M. Boldt, 55 cases, 2 deaths; and prior to 1893, 21 cases and 7 deaths. Dr. Edebohls,⁷ in a paper read before the section of Gynæcology and Surgery at the Pan-American Congress, Wash-

¹ *Medical Press and Circular*, October, 1893, p. 396.

² BRITISH GYNÆCOLOGICAL JOURNAL, November, 1895, p. 332.

³ *Obstetrical Transactions of Edinburgh*, 1895-96.

⁴ BRITISH GYNÆCOLOGICAL JOURNAL.

⁵ *Medical News*, Philadelphia, July 27, 1889.

⁶ *New York Gynæcological Journal*, 1891.

⁷ *American Journal of Obstetrics*, 1893, vol. xxviii., p. 606.

ington, September 9, 1893, stated that he had performed total extirpation of the uterus 6 times, and all the 6 patients had recovered. Mr. Bowreman Jessett¹ reported before the British Gynæcological Society, November, 1895, that he had performed the operation 8 times and 1 death. Dr. Christopher Martin² reported that he had performed total hysterectomy 6 times without a death. Dr. Cushing, in his paper read before the New York Academy of Medicine, March 28, 1895, stated that for forty-two operators, comprising most of those who were prominent in this country, there were "abdominal supra-vaginal hysterectomies, with stump extra-peritoneal, 444 cases, 59 deaths, 13.3 per cent. Abdominal total extirpation of uterus for myoma, 313 cases, 39 deaths, 12.4 per cent."

Will Dr. Noble notice that Dr. Cushing's table in a degree corroborates the verdict of my table as to the comparative mortality and the relative risks of the two operations. According to Dr. Cushing's table, *even at this period total hysterectomy has the better percentage*, and consequently has less risks.

But again as to the "comparative risks" of the two operations. Apart from all tables or statistics, can it not be shown that there are a vast deal greater risks in supra-vaginal amputation for myoma than there are in total hysterectomy. Are there not infinitely greater risks in securing the pedicle, preparing and placing it, and then after-caring for it, than there is in separating vaginal attachments and getting out the cervix? Can we realise the awful risks, the awful dangers, of keeping this decomposing remnant of a diseased uterus in close proximity with the peritoneal surfaces, and where it is separated from the peritoneal cavity by only two thin membranes? Surgeons have indeed shown marvellous skill in managing this stump, placing it, caring for it, yet

¹ BRITISH GYNÆCOLOGICAL JOURNAL, 1886-7, p. 337.

² *Obstetrical Transactions of Edinburgh*, 1895-6.

there are still sad results, disappointing to our best efforts. Dr. Cushing tells us in his own beautiful and classical language : "The extra-peritoneal method as finally perfected and performed by the hands of a master is a beautiful piece of surgery." That is so. Dr. Cushing further says : "It is a work of art to form a stump." That also is true. But, ah me, the stump ! it is still a decaying remnant ; as best prepared it is still a source of danger, of trouble, and uncertainty, a perfect *ambush of dangers* ! So great a surgeon as Dr. T. A. Emmett¹ says : "I have removed the whole of the uterus in five instances, and notwithstanding the greatest care to insure a favourable result, all the patients died sooner or later from blood poisoning generated about the stump." In 1887 Dr. Granville Bantock, of London, performed in the New York State Woman's Hospital a hysterectomy, extra-peritoneal treatment of the pedicle. With all his vast experience, his great expertness, his perfect *technique*, and in that vast amphitheatre where there was every resource of science and wealth, yet the record is—"Death on the seventh day from a pus cavity on one side of the pedicle."

Yes, the pedicle may be a work of art, a beautiful piece of surgery, yet is it not setting up a danger and trying to avoid it ? It is wonderful that the skill and dexterity of our great surgeons have enabled them to evolve out of it as good results as they have ; but what would their results have been without this needless difficulty ? This diseased remnant of a diseased uterus is not only inheritantly full of dangers, but is wrong in theory, and *against the true principles of surgery*.

I said in 1888, when I presented the two cases of hysterectomy, one supra-pubic and the other total : "There must be some connection in the way of cause and effect between disease of the uterine appendages and a fibroid tumour or uterine myoma. In both of the cases here

¹ "Principles and Practice of Gynæcology," 1884, p. 601.

referred to the disease of the appendages had existed many years, probably twenty. Both patients were sterile for that length of time. The fibroid in each twenty years ago was small, probably did not exist, and if it did would not probably have been the cause of sterility, nor could it in either case have produced the disease of the appendages; but the disease of the appendages, which was probably acquired in early married life, would have produced the sterility, and had such a disturbing effect upon the nutrition and circulation of the uterus that it may in each case have produced the growth of the tumour." I said further, "In every instance in which I have removed the uterine appendages for bleeding fibroid, I have found the appendages so much diseased that on that account alone their removal was desirable." Next, in the *New York Medical Record* of September 6, 1890, I called attention, as the result of my microscopical studies, to the degeneration of uterine fibroids—that they had a tendency to change and to take on more serious forms of degeneration. In one case the central portion of the fibroid was a cauliflower-like mass, in other portions there was metaplasia of muscular fibres to myxomatous or myxo-fibrous connective tissue, and there were large myxomatous fields; the whole tumour showing necrobiosis of Virchow, and ready to take on yet more appalling conditions. This tendency to change, to pass into other pathological states, has been proved to be common with fibroid tumours. Even Péan and Urdy said, as early as 1873, "These tumours are susceptible of many transformations." It is equally true that where there is a fibroid tumour of the uterus, the cervix of that uterus is also diseased.

Before a fibroid tumour can degenerate or undergo any change, it must first be reduced to medullary matter, and when so reduced a malignant growth can as readily develop as any other form of degeneration; and there is reason to believe that malignant growths have much more frequently grown out of, or been developed from, fibroid tumours than

has as yet been recognised. I am coming to the opinion that Dr. S. C. Gordon, of Maine, was right when he said that all fibroid tumours, large or small, should be removed. They are always a source of danger and of dangerous possibilities, and the help is in surgery. Thomas Keith performed hysterectomy for a uterine fibroid that weighed one pound. One of Dr. Bantock's first hysterectomies was for a tumour that weighed two and a half pounds. A. Martin, of Berlin, performed hysterectomy (vaginal) for a tumour size of an apple, "*ein appelgrosses myom.*" Dr. Washington L. Atlee¹ said, in 1876: "The only radical cure for these tumours I believe to be extirpation." When Dr. E. R. Peaslee remarked, "I regard it as a safe rule not to interfere with fibroids," Dr. Atlee replied in these remarkable words—"*We have no right to let a disease alone; our business is to relieve the patient.*"

Dr. B. F. Bear² says: "I believe that conservatism is in the direction of radical surgery, the removal of the tumour." An editorial in the *Annals of Gynecology*³ speaks of "The futility of electrical treatment." Any electrical treatment for fibroid tumours is not only futile, but any effective electrical treatment for these tumours does absolute harm. Electrical needles passed into these solid tumours oftentimes set up a most dangerous local and peritoneal inflammation. A case I had of total hysterectomy but for this treatment would have made a most easy and pleasant recovery. The operation in itself was not nearly as difficult or dangerous as to the case of total hysterectomy mentioned in this paper, yet the electrical treatment destroyed the woman. I was assisted in this operation by Dr. H. C. Coe and Dr. Chas. N. D. Jones. Dr. Frey administered the ether.

Dr. Chas. Noble, in his carefully prepared paper, next speaks of the disadvantages of total extirpation. He in-

¹ *Transactions of International Medical Congress*, Philadelphia, p. 821.

² *Gyn. Trans.*, 1897, p. 79.

³ 1892-93, p. 278.

forms us that his personal experience in total extirpation for fibroid tumours is small. He does not place his name on his list of total hysterectomies as he does on his list for supra-vaginal amputation, so we must conclude that he has not yet had a case of pure total hysterectomy for fibroids ; yet he says, "My personal experience has been sufficient to give me a realisation of the greater technical difficulties of total extirpation compared with supra-vaginal amputation."

I am grieved thus to be compelled to differ from Dr. Noble ; I can say I have not only performed the operation by both methods, but I have studied carefully the *technique* of each, and I believe there are many more difficulties—technical difficulties—in supra-vaginal amputation than in total hysterectomy.

The same writer, in his article, continues, stating further his objections to total hysterectomy : "First, the operation requires a longer time." Here I must again refer to my table. Clay says of his first case of total hysterectomy, "the operation was soon and easily accomplished." The case of supra-vaginal amputation by Dr. Bardenheuer, mentioned in my table, for "a pedunculated tumour, held by thin, slim pedicle ;" yet this experienced surgeon was *two hours in performing the operation*, while in performing his *first case of total hysterectomy* for fibroid he was *not quite one and one-half hours* ; that is, more than one half-hour longer in doing his case of supra-vaginal amputation, an operation he had long been accustomed to, than in doing his first operation of total hysterectomy for fibroid tumour. For his second case of total hysterectomy he was one and one-fourth hours. Dr. Edebohls says his first operation of total hysterectomy was done in one and one-half hours, the last three were performed in or within an hour. Mr. B. Jessett, of England, said he removed a twenty-four-pound fibroid by pan-hysterectomy in one hour. Dr. H. M. Boldt mentions that his first case of total hysterectomy was done in forty minutes, and the next two cases in about the same

period. Martin did his in forty-six minutes. In one he required only nineteen minutes ; yet our author, in his article above referred to, says, " To do a total hysterectomy takes fifteen minutes longer than to do a supra-vaginal amputation."

My first case of total hysterectomy for an intermural fibroid weighing thirteen and a-half pounds, though it was an unusually difficult case, took me one third less time than I was in doing my case of supra-pubic amputation, extra-peritoneal treatment of the pedicle, for an intermural fibroid that weighed nine pounds. The case of total hysterectomy was of such great difficulty that it must have belonged to what Dr. Kelly calls his " fourth class," as he says, " a well defined class of exceedingly difficult cases, in which the patient usually dies during or soon after the operation. Here the fibroid, extending from fundus to cervix, spreads out laterally in the broad ligaments down towards the vagina, presenting no suggestion of a pedicle. The loss of blood during the operation is excessive and the patient usually dies of shock within two or three days."

I have often thought I could not possibly have saved this patient by any other method than by total hysterectomy. Not only was the tumour large, " spread out laterally, &c.," but the fibroid tumour extended down into the cervix so that the pedicle, as secured, measured four and a half inches in diameter. The greatly enlarged cervix, with the rapidly spreading growth, pulled up and lengthened out an already long, narrow vaginal canal. The Fallopian tube on the right measured ten inches in length, was coiled upon itself and filled with bloody serum. The closed fimbriated extremity was four and three-fourth inches in circumference ; left tube five inches in length and filled with pus, its closed fimbriated extremity adhering to the left ovary. In many places there were strong peritoneal adhesions well organized, showing repeated attacks of peritoneal inflammation. Besides, the patient was weak, feeble and exceedingly prostrated ; yet with all these drawbacks and complications

the operation of total hysterectomy was not so difficult, so trying, or so arduous, nor did it take nearly as long a time as the one of supra-vaginal amputation with extra-peritoneal treatment of the pedicle for the patient with a nine pound intermural fibroid. Suppose I had attempted this case of thirteen and a half pound tumour, with all its complications and drawbacks, by supra-vaginal amputation. How long would I have been in encountering the many difficulties, how could I even have secured the pedicle? Some might say, "Oh, shell out the tumours and get your pedicle." But this, even in the hands of the most expert, would have taken time and increased the perplexities; and, when secured, what kind of a pedicle would it have been? If the fibroids had been enucleated there would have been left great masses of loose tissue; they soon would have been great pockets of pus—patient growing more feeble, strength exhausted, her system poisoned! Without all these drawbacks the patient was well and up on the seventh day, and able to go around on the twelfth.

By supra-vaginal amputation with any treatment of the pedicle there was little chance for this patient. In 1886, in London, I was privileged to see Dr. Granville Bantock perform a number of operations. The first one was on September 29, the removal of a "pedunculated fibroid, weight six pounds, and connected with the fundus by a thick soft pedicle." This pedicle was first transfixed with pins, then a moderate sized wire clamp applied with Kœberle's *serre-naud*. Quoting further from my account of the operation, which I wrote the evening of the same day—(I had opportunity of seeing every step of the operation, I stood opposite the operator and to the left of the first assistant, and besides, the first assistant, Dr. Doran, very kindly let me see the drawing he had made of the uterus and its pedunculated tumours)—"Incision three inches above the navel; Dr. Bantock then put a screw into the tumour, passing his left hand beneath the tumour, pulling the screw with his right, exerting considerable force, lifted the tumour out of the

abdominal cavity. As it lay still attached, Dr. Bantock attended to the bleeding points in the omentum, having first placed sponges around so that no blood could get into the abdominal cavity. He quietly and patiently seized every bleeding point, tied, and wiped with a sponge. When he came to amputating the tumour he looked carefully at what was best to be done, saw three tumours size of a walnut, concluded to leave them; next proceeded to put a wire around the pedicle; first wire selected was too stiff, took a smaller size, placed it around, drawing it as tightly as he could, then wound it around the instrument and screwed yet more firmly. When all was arranged he amputated the tumour, cut out the centre of the stump, and carefully passed sutures of silk from one side of the stump to the other. Then commenced the work of fixing the stump and placing it in the lower angle of the abdominal wound, bringing up the peritoneum, stitching it neatly around, having previously passed the stick sponge down in front and behind, so as to cleanse the peritoneal cavity. It was a beautiful and neatly performed operation." But if Dr. Bantock in this case had performed total hysterectomy, had taken out the whole diseased uterus with all its fibroids, the operation would have taken *less time*, would have been infinitely *less dangerous for the patient*, both *at the time of operation* and *subsequently*, and it would have been a *completed operation*, and not been followed by a long and painful convalescence, nor would there have been the continued irritation of the stump during convalescence, and subsequently, how long?

Dr. Bantock¹ says, "Dr. Martin, of Berlin, had been compelled by force of circumstances to abandon the intra-peritoneal method for what at first sight 'appeared a much more difficult and hazardous proceeding, namely, complete extirpation of the uterus.'" Dr. Bantock² re-

¹ BRITISH GYNÆCOLOGICAL JOURNAL, 1892, p. 66.

² British Gyn. Soc., March 11, 1897.

marked, on another occasion, that he "had been himself accustomed to a much less serious operation, and could not see why men resorted to such a severe procedure as pan-hysterectomy."

If we examine Dr. Bantock's case above narrated, we will see that total hysterectomy is *not* "a more difficult or more hazardous proceeding" or "so severe a procedure" as supra-vaginal amputation. By total hysterectomy we may not only avoid many amazing and technical difficulties in the operation, but surgeons will not have the constant and distressing anxiety of what may happen. Mr. Bowreman Jessett¹ said that he had performed the operation of total hysterectomy on eight occasions, with one exception none of them gave him a moment's anxiety, convalescing the same way as an ordinary ovariectomy. Dr. R. D. Hall,² of Cincinnati, said: "In all the operations I have made by the total extirpation method, the condition has never given me a moment's uneasiness."³

After I had removed the thirteen and half-pound inter-mural tumour by total hysterectomy, I had not a fear or an anxiety. I knew that the whole of the diseased mass was away and there was nothing to make trouble; but with my case of supra-vaginal amputation with extra-peritoneal treatment of the pedicle, I had continued anxiety for forty-two days! That pedicle! the continued threat of awful consequences, the constant and unseen danger, the many dangerous possibilities! Day after day, as I rode around seeing various patients, many most interesting cases, and in which I was most deeply interested, yet my mind and thoughts continually

¹ BRITISH GYNÆCOLOGICAL JOURNAL, November, 1895, p. 337.

² *American Journal of Obstetrics*, No. 4, 1897.

³ By referring to my note book I find, when I had returned from the continent to London, November 12, 1886, on the 13th, at 9.30 a.m., I saw Dr. Bantock; he remarked that he had been "bothered by a case of fibroid." Dr. Meredith afterwards told me it was the same fibroid I saw removed. So a fibroid removed September 29 gave this great surgeon anxiety *near two months afterward!* By total hysterectomy probably the case would not have given him a moment's uneasiness.

reverted to this poor coloured woman in the Hospital. I could ever see the painful dragging of the pedicle, the pulling upon the abdominal walls, the displacing neighbouring organs, the pressure upon the bladder, the continued distress of the patient. The very sunlight of Heaven seemed to shine into that woman's abdomen. I saw the utter uselessness of this diseased remnant of a diseased womb, and I so often repeated, as I said at the New York Pathological Society, November 23, 1887, it is only a source of danger and should not be there. Yet when I was performing total hysterectomy for the patient who had the thirteen and a half pound inter-mural fibroid, I was continually fired by the awful consideration of *venturing a new operation!* I knew without an operation the patient was doomed; yet I was ready at any time to turn aside from the contemplated procedure if I imagined for a moment it might be better for the welfare of the patient; but all the time I saw and was stimulated by new proofs that the procedure was the best thing for the patient, and the only way in which some of her conditions could be safely managed. I studied this case and the contemplated operation beforehand, I have since reviewed it again and again, and am constantly more and *more impressed that it was the only way the patient's life could have been saved.* I had never heard of total hysterectomy for fibroids being done or anyone suggesting or considering it. When I was about to present the tumour so removed before the New York Pathological Society, I sent the following letter to the President:—"February 21, 1888. Will there be time for me to present an intermural fibroid of the uterus? If ten minutes can be spared, please telegraph." To an eminent surgeon of New York I sent the following:—"Dear Dr., I owe you an apology for asking you to be present at the Pathological Society on account of a specimen I was going to present. In this operation I made a new procedure, or such as I have never seen elsewhere described or mentioned, and I wanted to have the opinion, and I hoped approval, of one so capable of judging as you yourself. Do you always use the extra-peritoneal method?"

In this procedure I certainly did not once think of Freund's operation with its more than 72 per cent. of deaths.¹ I had not thought of Freund's operation for years. In my earliest surgical studies I dismissed it entirely from my mind as being wrong in principle, as wholly condemnatory to carry a cancerous cervix through the peritoneal cavity. So opposed was I to Freund's operation² that I think if I had thought of it I should have rejected total hysterectomy for fibroids. Total hysterectomy for fibroids wholly differs from it in method, principle, purpose and intention; and certainly total hysterectomy for fibroid should not be called "a revival of Freund's operation." It is not so; yet an excellent editorial in the *BRITISH GYNÆCOLOGICAL JOURNAL*³ says: "In February, 1888, a new impetus was given to the operation by the efforts of Dr. Mary Dixon Jones to resuscitate Freund's operation." Freund's operation was for cancer, and has no relation to operations for fibro-myomata of the uterus; it has different ends and aims, and I can't see that total hysterectomy for fibroid can be called a resuscitation of Freund's operation. Not only is it wrong to carry a cancerous uterus through the peritoneal cavity, but the principle is wrong to open the abdominal walls for a uterus not enlarged, or which has no outside complications. Freund's operation in 1878 is more a perversion of Clay's method in 1844 and of Burnham's in 1853. In 1881, when Bardenheuer did his first operation of total hysterectomy for myo-fibromata, he may have been impressed by Freund's method, an operation he frequently performed; but nothing suggested total hysterectomy to me but the manifold dangers of the pedicle, its utter uselessness, and the possible injury

¹ Wm. A. Duncan, "Extirpation of the Entire Uterus for Cancer. Abdominal Extirpations; 137 Cases, 38 Recoveries, 99 Deaths." *Obstet. Trans.*, London, 1885.

² Pozzi says Freund's operation for cancer which to-day is utterly condemned, vol. i., p. 382.

³ 1896, p. 113.

it does. I urged total hysterectomy for the saving of human life, and that it was an easier operation, more complete, and could be done in less time.

Dr. Noble gives as his second reason against total hysterectomy, that "hæmostasis is not so satisfactory." Charles Clay said of his first case of total hysterectomy for fibroid in 1844, "The operation was soon and easily accomplished." Of his next case, in which he left merely a rim of the cervix, he said, "The tumour was removed with trifling loss of blood"—leaving us to infer it was not quite so successful an operation as the preceding one. Bardenheuer says of his first total hysterectomy for fibroids, "The loss of blood was very little." Dr. R. B. Hall,¹ of Cincinnati, says that in total hysterectomy "there is no more danger of hæmorrhage than in ovariectomy." Dr. Edebohls² says:—"The operation was practically bloodless." Mr. Bowreman Jessett,³ of London, says total hysterectomy "does away with the space that must exist after the operation by the sub- or intra- peritoneal method, from the existence of which the risks of hæmorrhage and hæmatocele must be very great."

With my first case of total hysterectomy, with all its complications, I did not have as much bleeding as I had with my case of supra-vaginal amputation mentioned in this paper. Dr. Chas. N. D. Jones said in his report of this case, "*The hæmorrhage was trifling.*" I have not read of any case of total hysterectomy where there was much bleeding, and so far as I see all hæmorrhage may be avoided. And now after the beautiful work of Prof. Stimson, of Prof. Polk, of Drs. Jessett, Hall, Edebohls, and many others, in preventing any possible hæmorrhage, Dr. Noble will not publish to the world that "Hæmostasis is not satisfactory."

Dr. Noble's third objection for total hysterectomy is:

¹ Southern Surg. & Gyn. Soc., 1892, p. 389.

² *Am. Jour. of Obstet.*, 1893, p. 606.

³ *Med. Press & Circular, London*, 1893, p. 313.

"The vagina is opened, and although this may be cleaned previously it cannot be done perfectly, and the risks of infection from soiling the fingers or instruments, and secondarily the peritoneum, are increased." One of the great advantages of total hysterectomy is that the vaginal canal is open and so becomes the most satisfactory way of drainage, or, as I said, when I first presented the subject before the New York Pathological Society, November 23, 1887, "Leave the vagina open as the best and most natural way of drainage." In another part of the article I call it "Nature's natural outlet."

In all my cases of colpo-hysterectomy for cancer I carefully and perseveringly preserved the vaginal opening in order thus to secure more complete drainage. To preserve this opening was at times most difficult and required constant watchfulness, because the cut surfaces showed such a tendency to adhere together that, without the packing of gauze, they would close in a few hours. I maintained the opening only by continually keeping slips of gauze, one end extending into the peritoneal cavity,¹ the other projecting from the vagina, and thereby was secured good drainage; and besides by daily twice dressing and packing anew the vaginal canal, all sepsis was prevented, and thus, though all my cases of vaginal hysterectomy for cancer were in a most deplorable condition, one for weeks not able to sit up, carried in the nurse's arms to the operating table, yet by securing this most perfect drainage each patient made a speedy and happy recovery.

Dr. Jos. Eastman,² in a paper, January, 1894, says: "The strongest point in its favour (the extra-peritoneal treatment of the pedicle) is that in this method we have practically one wound, whereas in total or partial extirpation method we have two wounds, the one in the abdomen, the other in the pelvis, the latter extending through connective tissue,

¹ *Am. Jour. of Obstet.*, Nos. 4-5, 1893.

² *Journal of American Medical Association*, Chicago, August 4, 1894.

rich in lymphatics, down to the vagina (an incubator for many varieties of bacteria), which cannot always be sterilised and maintained aseptic during the operation." He repeats in the same paper : " One of the great objections to total extirpation of the cervix and vaginal drainage is that you make an additional wound and have a possibility of vaginal infection."

I rather think it is an advantage in this operation to have the " additional wound " or opening, and in no case of hysterectomy have I found the vaginal canal " an incubator for bacteria." True, it is in a measure difficult to render the internal mucous membrane, as also the external skin, perfectly aseptic, but it can be done ; and when we have this second opening the abdominal incision may be closed, and *at the end of a week there is no wound either in the abdomen or vagina.* But with the extra-peritoneal method, as Kelly¹ says, " The dismal end of the stump sloughs off " ; Christopher Martin² adding : " When the stump separates a huge suppurating chasm is left going down to the peritoneum, and separated only by a weak barrier of granulation tissue from coils of intestines. The wound is slow in healing and it is usually from two to eight weeks before the patient may even sit up in bed." So with supra-pubic amputation we have a wound four, six, eight weeks, or for as many years. Total hysterectomy seems the best way to avoid any lasting wound.

With my case of total hysterectomy for fibroids³ I *closed entirely the abdominal wound.* Prof. L. A. Stimson⁴ says of his first case of total hysterectomy for fibroids : " The abdominal wound had been entirely closed, and drainage made through the vagina for the first few days."

Dr. Noble's fourth objection, " Even if the operation is

¹ *Gynæcological Transactions*, 1890, p. 123.

² *Obstetrical Transactions of Edinburgh*, 1895-6.

³ *New York Medical Journal*, August 25, September 1, 1888.

⁴ *Ibid.*, July 27, 1889, p. 277.

completely done and the peritoneal cavity is shut off by continuous sym-peritoneal suture, it is still necessary to employ drainage of the sub-peritoneal space, that is, the base of the broad ligaments and the cut vaginal walls. This entails a granulating wound, infected ligatures, and the possibilities of septic absorption."

I should say this is rather an argument in favour of total hysterectomy. The sub-peritoneal space is open and thoroughly drained, thus preventing absorption and infection. But any amount of drainage rather than blood poisoning; as Dr. Charles N. D. Jones said, referring to general as well as gynaecological surgery, "I never saw a case do badly that was well drained."

One great difficulty with supra-pubic hysterectomy is that there is no way to have the most perfect drainage, and the decaying stump with insufficient drainage gives yet more danger of infection. With my case of supra-pubic hysterectomy referred to in this paper I put in a drainage tube, but placed it far away from the decaying stump. I believe if it had not been so placed the patient would have been lost.

Dr. Noble says further: "A practical point bearing upon the relative merit of supra-vaginal amputation *versus* total hysterectomy is the fact that a number of the advocates in America of total hysterectomy have adopted vaginal hysterectomy for small tumours. This is not true of those who perform supra-vaginal amputation. Were the advocates of total hysterectomy satisfied with their results they would not adopt an inferior procedure. . . . Those who perform this operation are accustomed to the idea of having the ligatures about the uterine arteries and those about the cut vaginal walls become infected and come away by necrosis and suppuration. They are accustomed to the idea of a granulating infected wound. . . . Habituated as they are to an infected granulating wound with more or less necrosis, and to gauze drainage and more or less foul vaginal discharges."

I cannot admit that our great surgeons who do vaginal

hysterectomy for any cause "are accustomed to the idea of having the ligatures infected and come away by necrosis and suppuration" ; or, are "habituated to infected granulating wounds." Any wound that has to heal by granulation they keep surgically clean and pure, and though this method may entail a granulating wound it lessens the possibilities of aseptic absorption. As to "gauze drainage and more or less foul vaginal discharges," infinitely better have these than sepsis in the peritoneal cavity with the formation of large abscesses, producing blood poisoning and the death of the patient. However, total hysterectomy may be made so clean and so complete an operation, that there may be no need of drainage even in this direction.

Further, I cannot see that vaginal hysterectomy is "an inferior operation," or that it is not better for small fibroids than encountering the dangers and after-consequences of opening the abdominal walls. Dr. Noble tells us his own experience with vaginal hysterectomy for fibro-myoma embraces but a single case, which, says he, "I was driven to perform to arrest hæmorrhage after a vaginal myomectomy." Dr. Noble is young yet, and I would advise him hereafter to do vaginal hysterectomy instead of "vaginal myomectomy."

A new work on Diseases of Women says of complete abdominal hysterectomy : "The operation is often accompanied with profuse bleeding from the edge of the divided vagina." I have never found any difficulty from hæmorrhage from the divided vagina in total hysterectomy nor in colpo-hysterectomy ; with pressure forceps I have been able to prevent any loss of blood. I have seen Martin, of Berlin, patiently sew the cut edges, stitch by stitch ; to me pressure forceps seem more effectual and save time.

Dr. Noble finally says : "The single advantage which total extirpation has over supra-vaginal amputation is that in certain cases the cervix is diseased, and in such cases it is best to remove it."

The cervix is diseased in all cases ; but besides there are

many advantages in total hysterectomy. First, the operation is easier ; second, takes less time ; third, a more rapid recovery ; fourth, no dangerous sequelæ ; and, finally, it removes the whole of a diseased organ. So true is this principle that many of our surgeons are wisely seeing that even in case of removing diseased uterine appendages it is better, with the appendages, also to remove the whole uterus. I said in 1888 :¹ "In removing the uterine appendages, the diseased conditions I have frequently been surprised to find in *almost every instance*, the *uterus enlarged*, more or less, either from hyperplasia or incipient fibroid growths."

In a number of instances I then recognised that, accompanying the diseased uterine appendages, there was a pathological condition of the uterus. In case No. 24, Mrs. M. G., of my table,² so impressed was I with this that in three different articles, published in as many medical journals, I spoke of it, remarking that "even the fundus uteri oozed blood on the slightest touch." It seemed almost as if the endothelioma of the ovaries (in this patient the ovaries were largely made up of lakes of blood) had extended to the uterus.

I am now ready to believe that pus tubes and endothelioma and gyroma of the ovaries not only cause the growth of fibroid tumours of the uterus, but develop or give rise to various other abnormal conditions of that organ.

Even when there are no adhesions nor raw surfaces, in many instances in my work in laparotomy in 1887-88-89, I then thought it would have been better if the uterus had also been removed. In some cases the condition of the uterus almost made one tremble for the safety of the patient. For instance, Mrs. R.,³ No. 66 of same table : her opera-

¹ *New York Med. Jour.*, August 25, September 1, 1888.

² *New York Med. Record*, August 7, 1897.

³ *Pittsburg Med. Review*, October, 1890, and *New York Med. Jour.*, May 10, 17, 1890, Case 4.

tion was in August, 1888 ; the uterus was in extreme retroversion, more than twice its normal size, tender and sore on pressure, evidently from some unknown pathological condition, and which I feared might give her future trouble. The patient had suffered for years from disease of the tubes and ovaries, much of the time not able to attend to her household duties or to be out of her bed. How much of this suffering was due to the uterus we cannot tell. At the time of the operation the ovaries were enlarged to six or eight times their normal size, and, as subsequently ascertained, each one contained an endothelioma changing to a blood cyst, each one had hard gyromatous growths which, as we have seen, so often and so cruelly imprison and impinge nerve fibres ; and of the remaining tissue of each of the ovaries some portions were in intense acute and other portions in sub-acute inflammation, and there was not a normal ovum in either ovary ; yet with all this the condition of the uterus may have increased or caused part of the suffering. While the ovaries and tubes had both to be removed, I thought then what was the good of leaving a sickly uterus ; would it not be better for the patient if it were out of the way ? It was only a distressing weight and doing positive harm. Great surgeons have since made all this clear, but I did not dare then to make the advance, but I then and now believe if I had removed the uterus it would have been infinitely better for the patient, and she would since have had a happier and more useful life.

Probably the best reply to Dr. Noble's excellent paper will be for a moment to give the opinions of several different surgeons on these subjects. Professor Wm. M. Polk¹ says : "The fact that two methods held the field was presumptive evidence that neither was perfect. . . . The alternative held out to both sides was total eradication of the stump, and towards this good operators have steadily worked."

¹ *Trans. of Am. Gyn. Soc.*, 1892, p. 216.

Dr. Joseph Price :¹ "I agree that in all probability complete extirpation will be the future operation."

Dr. Florian Krug :² "Now I am confident that total extirpation without leaving a stump is bound eventually to be recognised as the ideal method. . . . The fixation of the uterine cervix in such an unnatural position as the lower angle of the abdominal incision gives rise to excruciating pain as well as to severe and often permanent bladder symptoms. It requires much less time to extirpate the entire uterus, cervix included, than to leave the stump and properly care for it according to the intra-, extra-, or any known method. The after-treatment is infinitely more simple, less painful and disagreeable to the patient."

Dr. R. B. Hall :³ "If the patient makes a primary recovery from the extra-peritoneal method she is not in all cases restored to health. She not unfrequently suffers great pain, due to the contraction of the pedicle dragging upon the abdominal scar, and pressure from the distorted pelvic organs. The total extirpation method overcomes these difficulties. There is no sloughing pedicle ; there is no distortion of the pelvic organs from the stump being fixed to the abdominal wall, pressing upon the bladder, or interfering with the functions of the bowels, and we have a comparative painless convalescence. I am certain the method has come to stay, and that the clamp in abdominal hysterectomy will certainly be a thing of the past, as it now is in ovariectomy."

Dr. S. C. Gordon :⁴ "I advocate the entire removal of the uterus. I believe that it is the ideal operation, that it is better every way. . . . The more I do complete hysterectomy the better satisfied I am with the results. . . . However little of the cervix is left, there will always be more or less danger from septic material in the cervical canal,

¹ *Annals of Gyn.*, vol. v., 1891, p. 107.

² *New York Jour. of Gyn. and Obstet.*, 1892, p. 13.

³ Southern Surgical and Gyn. Society, 1892, p. 389.

⁴ Am. Med. Assn., 1892.

and although one may cauterise by the very best methods pus may result."

Mr. F. B. Jessett :¹ "From the scientific point of view both methods advocated fall short of the ideal operation, namely, removal of the whole uterus. . . . Convalescence very much more rapid, and the risks of subsequent hernia practically *nil*. The risks of septicæmia are considerably reduced. . . . I have no doubt that the removal of the entire organ is a great advance upon supra-vaginal hysterectomy either by extra-peritoneal or sub-peritoneal methods, and the shock would be much less."

Dr. Matthew Mann : "I think the cervix when left is of little use, and a possible source of harm."

Dr. B. F. Chambers : "I very much prefer total extirpation, and can see no advantage in leaving the cervix."

Dr. H. J. Gerrigues :² "Complete extirpation, although seemingly the boldest, is perhaps the safest."

Dr. Christopher Martin :³ "To this method, hysterectomy, with extra-peritoneal treatment of the pedicle (clamp cases), there are numerous objections. The patients that do not die escape by the skin of their teeth. They have an offensive necrosing stump, sometimes as thick as the wrist, filling the lower portion of the wound, and slowly sloughing off. They run the gauntlet of septicæmia, peritonitis and secondary hæmorrhage. In all these points pan-hysterectomy is superior to the clamp operation. To briefly sum up the advantages of pan-hysterectomy : First, it absolutely cures the patient ; second, it has a lower mortality than the clamp operation, than the enucleation and than the intra-peritoneal method of treating the pedicle ; third, it is attended by far less shock ; fourth, the convalescence is easy and uneventful, the wound heals by first intention, and

¹ *British Medical Journal*, April, 1893 ; *Med. Press and Circular*, p. 393.

² "Diseases of Women," 1894, p. 466.

³ *Obstet. Trans. of Edinburgh*, 1895-96.

the patient is up in about three weeks ; fifth, there is very slight risk of a subsequent formation of ventral hernia."

Dr. Brewis¹ was of the opinion that "the operation of total hysterectomy was the best one, and he had no doubt it would become the operation of the future."

Dr. Smyly :² "The ease with which the operation was performed, the freedom from pain, and the rapid convalescence. . . . I believe it is better to remove the cervix entirely than to return it into the abdomen, where it is liable to prove a source of danger."

Dr. J. F. W. Ross :³ "I feel that this operation will be the one generally adopted before five years have passed. I can heartily recommend it."

Prof. E. E. Montgomery :⁴ "Of the two procedures the entire removal of the uterus seems to the writer the preferable one."

Dr. E. W. Cushing :⁵ "If you are going to leave any portion of the cervix it should be a small part. I have recently had a case which has convinced me of the advisability of removing the whole uterus."

Dr. Elder :⁶ "The opinion is gradually being forced upon me that for the majority pan-hysterectomy or total extirpation is the best method which has yet been devised."

Dr. F. Edge :⁷ "I have performed the operation twice and have been struck by its simplicity."

Dr. Homans said he had laid down the following rule : "To operate on all cases as soon as discovered, and by complete hysterectomy."

Dr. H. G. Wettel :⁸ "The stretched vagina and

¹ *Obstet. Trans. of Edinburgh*, 1895-96.

² *BRITISH GYN. JOUR.*, 1892-93, p. 89.

³ *Practitioner*, Toronto, Can., 1892, p. 317.

⁴ *Am. Med. Assn.*, 1894.

⁵ *Philadelphia Obstet. Soc.*, February, 1894.

⁶ *BRIT. GYN. JOURNAL*, 1896-7, p. 497.

⁷ *Ibid.*

⁸ *New York Journal of Gyn. and Obstet.*, 1893.

cramped bladder, the dead tissue in the lower angle of the incision and the weakened abdominal wall, all condemn the plan as unsurgical and inartistic. By total hysterectomy patients make a speedy and painless recovery."

Dr. Edebohls:¹ "Total extirpation of the uterus has always appealed with stronger force to the writer's idea of surgery than amputation through the cervix. Total extirpation is not more dangerous, is not a more difficult operation. . . . The *technique* of total extirpation is believed to possess the following advantages: (1) danger of infection from the uterus or vagina is entirely avoided or at least minimised; (2) the uterine arteries are seized with ease and certainty; (3) no danger of wounding the bladder or ureters; (4) the after treatment required is practically *nil*."

Prof. Wm. M. Polk:² "It seems to me that the removal of the entire uterus is preferable to incomplete removal. I know very well that those gentlemen who leave in a portion of the cervix claim that it is an ideal operation, that it takes less time, &c.; so far as time is concerned, removal can be performed as easily and as quickly by one method as by the other. In performing one operation provision must be made for the subsequent development of purulent accumulation behind a portion of the cervix which is allowed to remain. Any operation which has to make provision for such a contingency is incomplete."

Dr. G. Bantock:³ "A method which, almost of necessity, seems to invite suppuration (or the formation of hæmatocele) and to require dilatation of the cervix for the removal of ligatures, has not much to commend itself to our notice."

Dr. Wm. Chapman Grigg:⁴ "It is evident that any operation that involves the formation of pus out of sight

¹ *Am. Jour. of Obstet.*, 1893, p. 606.

² *Gyn. Trans.*, 1893, p. 107-8.

³ BRITISH GYNÆCOLOGICAL JOURNAL, 1892, p. 65.

⁴ *Ibid.*, p. 54.

and out of reach of drainage ought to be looked upon with suspicion."

Dr. F. F. Schacht: "The operator who undertakes the intra-peritoneal operation has all the difficulties of total extirpation to encounter, with the additional objection that accurate suturing of the cut peritoneal flap over the intra-pelvic stump frequently occupies even longer time than any other portion of the operation, and therefore materially adds to the immediate shock."

Of this method I said in the *Medical Record*, September, 1890, "Goff's method, as reported in the *New York Obstetrical Journal*, is, as he describes it, 'Taking out the whole of the uterus except a bit of the cervix, covering this over with peritoneum.' But in all his cases, as he reports them, the temperature went up the fourth or fifth day, which, says Dr. Goff, 'Means suppuration under the flap, with danger of the pus bursting into the peritoneal cavity'; so in each case he dilated the cervix, drained and irrigated. Of one he said, 'A gentle amount of pressure caused the exit of about half an ounce of pus and broken down tissue.' The same procedures are used by Dr. A. P. Dudley. 'He dissects out the uterus to about three-fourths of an inch of the cervix.' The third day there is the same rise of temperature, the same process of dilating for discharge of pus. Thus invariably a certain amount of suppuration seems to accompany this method, so, with 'a bit of the cervix left,' there cannot be, as Dr. Goff expresses it, 'all the elements of safety.'"

Dr. Edebohls is quite just as to his criticism on the name. He says, "the term hysterectomy having been (mis) appropriated to denote supra-vaginal amputation, the time has now arrived when, in the interests of clearness and a correct nomenclature, the term hysterectomy should be reserved to apply to total extirpation of the uterus; cœlio-hysterectomy and colpo-hysterectomy to denote, respectively, *viâ* the abdomen, or *viâ* the vagina." Knowsley Thornton¹

¹ "System of Medicine," Clifford Allbutt and W. S. Playfair, 1896, p. 611.

says on the same point: "Hysterectomy is a term which should have been restricted to the complete cutting out of the womb; unfortunately, however, it was in common use before the complete extirpation of the uterus had become a recognised operation."

The mixture of terms is not only confusing, but has led to errors and given erroneous impressions. Last September, in a few minutes' conversation with Dr. Chas. Noble, I said that when preparing my paper on "Laparotomy for Diseases of Women, from 1879 to 1889,"¹ I was particularly interested in Chas. Clay's work, and thought at first that he had done total hysterectomy for fibroid, but soon found him speaking of the disposition of the pedicle. So of many others. They would call their operation "total hysterectomy," and in the next line tell how they managed the pedicle. At this time my belief was that Dr. Bardenheuer had done the first case of total hysterectomy for fibroids. Pozzi² says of Bardenheuer that he "had six recoveries out of seven cases, but that it seems as if he was dealing with simple cases that would have recovered with any other method. Pozzi continues: "Of late fresh attempts have been made to remodel complete extirpation. Martin³ has recommended it, he first performs through the abdominal walls a supra-vaginal hysterectomy, using a temporary elastic ligature. Then an assistant frees the cervix through the vagina, after which the surgeon terminates the operation through the abdomen by tying the broad ligaments and peeling off the bladder."

In this method of procedure Martin was not following the method of Bardenheuer, but followed exactly the plan I presented before the New York Pathological Society, November 23, 1887. I do not believe at this time Dr. August Martin knew of Dr. Bardenheuer's method or of his work. On October 20, 1888, Dr. Mendes De Leon,

¹ *Am. Jour. of Obstet.*, July, 1897, p. 74.

² "Treatise on Gynæcology," 1892.

³ *Cent. f. Gyn.*, 1889, No. 40, p. 689.

of Amsterdam, wrote me : "Only yesterday I returned from a trip to Berlin. Martin told me he had performed 4 hysterectomies with vaginal extirpation of the pedicle. As soon as he shall reach the series of 10 he intends to publish it. Is this method of treating the pedicle yours or his ? I am very anxious to know more about this question. Perhaps you may find time to let me know one of these days."

If Dr. Martin had known at this time of Dr. Bardenheuer's work he would have mentioned it to Dr. Mendes De Leon, and Dr. Mendes De Leon would not have written the above. Also, if Dr. Martin had known of Dr. Bardenheuer's work he would certainly have referred to it when he was in this country in the fall of 1887. While here all his public addresses were to sustain and promote the intra-peritoneal treatment of the pedicle ; even at the meeting of the American Gynæcological Society, September 15, 16, 17, 1887, his address was to this purpose. Probably before Dr. Martin had arrived in Germany I had presented the subject to the New York Pathological Society, and I believe the facts and reasons then presented in favour of total hysterectomy were so strong—for I felt the seriousness of the subject—that not long after Dr. Martin and others commenced to operate by this method. I was led to think of total hysterectomy for fibro-myoma only by the great sufferings of my patients for whom I had just before successfully performed hysterectomy by the extra-peritoneal treatment of the pedicle. Yet an editorial of the *BRITISH GYNÆCOLOGICAL JOURNAL* (1896-7, p. 114) says : "In 1888 A. Martin, of Berlin, following Bardenheuer, had effected total, or practically total, extirpation of the uterus."

Dr. Martin, when he presented the cases, October 5, 1889, said :¹ "Cutting off the body of the uterus after applying a constrictor, then freeing the cervix." This is not Bardenheuer's method. It is one of the methods I presented before the New York Pathological Society.

¹ *Centralblatt fuer Gynæ.*, Kologone, 1889, No. 40, p. 690. "Abtragung des Corpus Uteri unter Konstriktion. Dann Auslosung des Collum."

The editorial continues : " In America, in 1890, Florian, Krug, and Eastman, of Indianapolis, seem to have been the first to practice this procedure."

After my first case of total hysterectomy for myofibroma, February 16, 1888, the next case recorded was by Prof. L. A. Stimson, November, 1888, and he reported to the New York Surgical Society, January, 1889. On May 21, 1889, Prof. W. M. Polk¹ presented before the New York Obstetrical Society a case of complete extirpation of uterus for procidentia, as Dr. Coe said, " removing the entire cervix as by vaginal hysterectomy." Dr. Polk on that occasion said : " There have been 6 or 7 cases operated upon in this way in New York, and all the patients have done well. It would seem, therefore, that the method is about as free from danger as any, while the freedom from distress and the sequences of the present methods will commend it to all." By 1892 Dr. Polk had performed the operation 18 times. Dr. Bolt's first case of total hysterectomy for fibroid took place May 23, 1889 ; his next case, July 15, 1889 ; his third case, October 20 of the same year. The third case he presented before the New York Obstetrical Society, November, 1889. When he reported 21 cases he said :² " Since my first operation of complete hysterectomy, this, with few exceptions, has been my method of choice."

Dr. Eastman did his first case September 21, 1889, and the second on October 1 ; these he reported to the Marion Co. Medical Society, January 28, 1890. He said of his first :³ " I determined to have no pedicle to become gangrenous, to slough, to bleed, and to furnish septic material." Of the second case he says in the same journal : " In my judgment this woman could not have endured the tedious convalescence attending cases when the pedicle was fixed in the lower angle of the wound."

Dr. Florian Krug did his first operation of total hysterectomy

¹ *American Journal of Obstetrics*, 1890, p. 83.

² *Ibid.*, vol. xxvii., 1893, p. 833.

³ *Ind. Medical Journal*, April, 1889-90, p. 323.

tomy for fibroid May 13, 1890, and made a most excellent presentation of the same. Dr. R. B. Hall, of Cincinnati, Ohio, said he was one of the first to advocate total extirpation, and the first to make the operation in his own State. With a deep soul desire of all surgeons to do the best for his or her patients, Dr. Hall, in 1895, gave up total hysterectomy for Kelly's method, which operation he performed 46 times, and then returned to total hysterectomy, and said in a letter addressed to me, November 6, 1897: "I am a strong advocate of total extirpation in place of the supra-vaginal operation as now performed by the majority of operators."

Dr. J. F. W. Ross, of Toronto, Can.,¹ says: "I carried out the procedure, November 3, 1891; Dr. Eastman, of Indianapolis, was the only operator on this continent who had previous to that date performed the operation of total extirpation of the uterus for the removal of a large fibroid tumour by this or similar methods."² Dr. Ross, reading the reports as they appeared, could easily come to that conclusion. Dr. Ross has done beautiful work in this department of surgery. In his letter of November 13, 1897, he says: "I have had a large experience with the operation of oöphorectomy for the relief of patients suffering with fibroid tumours. I have case after case in which the tumour has most marvellously and mysteriously melted away after the removal of the ovaries. For a time little hæmorrhages may occur, but after this all goes well."

Knowsley Thornton says: "Bardenheuer and Eastman deserve the chief credit for the operation of complete extirpation." What does our author wish us to gather from this? We know that Charles Clay did total hysterectomy for fibroid nearly forty years before Bardenheuer; we know also that the method that is now generally pursued in performing the operation for total hysterectomy for fibroids

¹ *Can. Medical Review*, February, 1897, p. 40.

² "System of Medicine," Clifford Allbutt and Wm. Playfair, 1896, p. 627.

is not Bardenheuer's method, or the one he used, but is the one I proposed before the New York Pathological Society, November '23, 1887. It must have its advantages, for it was the method that was accepted and carried out by so excellent a surgeon as Dr. Joseph Eastman. As the author says: "The latter operator (Eastman) performed the operation in two stages; first he removed the uterus and tumours as in ordinary supra-vaginal hysterectomy, then he removed the cervical stump." Dr. Eastman¹ gives his own procedure as follows: "The tumour was lifted forward out of the abdomen. With an elastic rubber tubing I encircled the tumour below the point where it was deemed best to sever it. I enucleated nodular masses from beneath the ligature. My staff (some would prefer to do without the staff) was then passed into the vagina; I was enabled to extirpate the cervix without interfering with the ureters."

Knowsley Thornton in the same article makes the following statement in regard to Chrobak, saying: "Chrobak, a close follower of Eastman, has been most successful with his cases of complete extirpation. Early in 1891 he reported a series of 17 successful cases by this method." Dr. Florian Krug² makes the statement that Chrobak performed 17 total hysterectomies.

Dr. Chrobak's cases were not total hysterectomy or complete extirpation of the uterus. Pozzi³ gives Chrobak's method, saying: "He shells out the uterus from its peritoneal covering, resets it as low as possible, so as to leave *in situ* no more than a ring of the cervix, and on this he fixes the two lips of the peritoneal serous membrane."

Chrobak's *technique* is further reported in an editorial in *Annals of Gynæcology*, 1892-93, page 278: "The improved method of Chrobak consisted in ligaturing the ovarian and uterine arteries, section of the cervix just above

¹ *Medical News*, August 1, 1891.

² *New York Journal of Gynæcology and Obstetrics*.

³ "Treatise on Gynæcology," vol. i., page 189.

its vaginal junction, cauterisation of the cervical canal with dilatation of the latter, and the passage of an iodoform wick through it into the vagina." Chrobak called this method the retro-peritoneal treatment of the stump. Chrobak, in a report of his case,¹ says "he does not open the vagina but leaves a quite shallow cervical stump behind, which he covers with a peritoneal sheet from both sides."

Pozzi calls Chrobak's method "an interesting modification of Bardenheuer." Is it not rather a modification of Charles Clay's operation of 1863, in which Clay says he placed a ligature just immediately above the plane of the os; or after T. A. Emmett in 1884, Dudley's in 1884, or Eastman's in 1887, Goffe's in 1888, Polk's in 1889, Bear's in 1897? Good and excellent work has been accomplished by all the varieties of this same method, that is, leaving a small portion of the cervix.

Of Eastman's² case, May 10, 1887, he says: "A strong elastic was thrown around the pedicle as low as the vaginal attachments, and then the pedicle was severed between the clamp and the ligature. A conical shaped piece of tissue was cut out of the stump. A cautery iron at blood heat was three times passed through the cervical canal; a dressing forceps was passed through after the cautery by the aid of which a rubber tube, as large as the little finger, was dragged up to within a half-inch of the free peritoneal surface." Dr. Eastman said, "I should use the same method again, including drainage, not only because the results were good in this case, but because I believe that, when it can be done, it is the ideal method."

Prof. W. M. Polk, before the New York Obstetrical Society, May 21, 1889, proposed "a new method of treating the pedicle in supra-pubic hysterectomy for uterine fibroids and procidentia," remarking that "Dr. Dudley (A. P.) had

¹ "Zur Exstirpatio Uteri Myoma," *Centralb. j. Gyn.*, 1891, No. 35, p. 713.

² *Proceedings of the State of India Medical Society*, May 10, 1877.

done an operation very much like it. He cut the cervix off lower than I do—so low that it could be dilated subsequently for drainage.” (Dr. Dudley left three-fourths of an inch of the cervix.)

Pozzi further says in his work that Dr. Boldt (*Centr. f. Gyn.*, 1890, No. 38, p. 683) “has in three cases followed Bardenheuer’s method with this peculiarity, namely, he removed the cervix through the vagina.” When Dr. Boldt presented his first cases, November 5, 1889, he said: “The method consists in first opening the abdomen, turning out the tumour with the uterus. . . . The remainder of the uterus is then removed as in vaginal hysterectomy, or as was said in *Centr. f. Gyn.*, 1890, No. 36, p. 683, he tied the pedicle, cut the uterus off, then removed the rest through the vagina—*trug den uterus ab und entfernte dann den rest des collum durch die Schiede.*” This is not following Bardenheuer’s method. Besides, at this time Dr. Boldt did not know of Dr. Bardenheuer’s work in total hysterectomy. Dr. Boldt, in 1892,¹ before the American Gynæcological Society, used this expression: “The pioneer in this work was, I believe, Dr. Jones, who performed the first combined operation,” and in 1893 Dr. Boldt said, in his address before the same society:² “Dr. Mary Jones, of Brooklyn, performed the first complete extirpation of the uterus for myoma February 16, 1888, publishing it in the *New York Medical Journal*, August 25 and September 1, 1888.” Dr. Boldt certainly would not have made this statement if he had known of Dr. Bardenheuer’s work, or was conscious of following his methods. Even at the meeting of the Academy of Medicine, March 28, 1895, when Dr. E. W. Cushing, of Boston, read his paper on “The Evolution in America of Abdominal Hysterectomy and Total Extirpation of the Uterus,” and when were present many eminent surgeons from New York, Boston, and Phila-

¹ *Trans.*, 1892, p. 251.

² *Gyn. Trans.*, 1893, p. 240.

delphia, probably in all that vast assembly of learned men there was not one who knew of Dr. Bardenheuer's work in total hysterectomy for fibroids except Dr. H. J. Garrigues, the cosmopolitan devourer of books—and maker of them. To all others it was a sealed volume. That evening I believe Dr. Garrigues went to that meeting intending to speak of Dr. Bardenheuer's work, and probably had Dr. Bardenheuer's pamphlet in his pocket, but as in a subsequent conversation with me he incidentally remarked, "I looked around and saw you," so probably his kindly generosity from *his* standpoint prevented him so suddenly breaking the illusion, and throwing the credit of this new procedure on his own nationality.

Soon after the above-mentioned meeting at the Academy of Medicine, Dr. Garrigues kindly informed me of Dr. Bardenheuer's work in this respect, and in an article in the *Medical Record*, August 24, 1895, p. 260, I acknowledged the same.

A few days after the meeting at the Academy of Medicine, I wrote Dr. Garrigues asking the loan of this book that told of Dr. Bardenheuer's operations. Dr. Garrigues replied that he had sent it to Dr. Cushing in Boston, so at that time I suppose Dr. Cushing introduced the facts into his paper; at least, when Dr. Cushing read his paper before the Academy of Medicine, March 28, 1895, so far as I could hear these facts were not mentioned. I did not have the opportunity or time to examine Dr. Bardenheuer's book until the summer of 1897, when Dr. Garrigues kindly loaned me the volume. Still the point I was referring to was that Dr. Boldt did not do his operations of total hysterectomy for fibroids by what is known as Dr. Bardenheuer's method. Dr. Boldt gives the following description of his procedures:¹ "A rubber ligature was placed below the tumours on the cervix, the uterus was amputated above this ligature and the abdominal wound

¹ *Am. Journal of Obstetrics*, vol. xxvii., 1893, p. 833.

closed. After this the patient was put into a position for vaginal hysterectomy; the cervix was grasped by a volsella forceps and the bladder separated anteriorly; the *cul-de-sac* was also opened posteriorly, and two forceps on either side secured the broad ligaments. A few hæmostatic forceps were necessary to secure some of the smaller bleeding points. After the cervix had been cut, a strip of an iodoform gauze was introduced for drainage. Time of operation forty minutes. The vaginal wound closed on the tenth day. On the nineteenth day after the operation the patient able to be up, and four weeks after attended to all her household duties with comfort."

This method, as given above by Dr. Boldt, is substantially the method that I, with the assistance of Dr. Chas. N. D. Jones, carried out in our first experimental procedure February 16, 1888. Still no doubt there will be many and great improvements made in the *technique* of this operation.¹

Dr. Bardenheuer says of his method in his first case of total hysterectomy: "The uterus is seized with forceps, a small transverse incision made between the bladder and anterior lip of the cervix opens the vaginal vault. In a similar manner the posterior vaginal vault is opened from Douglas' pouch." Dr. E. W. Cushing, in his above-mentioned paper, says: "If we read to-day the masterly description of Bardenheuer, and study his method of performing total abdominal extirpation, we find little to alter or improve, except (1) we would raise the pubis somewhat higher; (2) would cleanse the vagina and the uterine cavity more thoroughly before operation; (3) would avoid the use of 2 per cent. carbolic solution in the abdominal cavity, and (4) would drain with iodoform gauze instead of a rubber tube and the catgut net."

¹ Probably I might have made some had I not been interrupted in my surgical work by one of the most cruel and deadly persecutions that ever befell man or woman. It was from only a few, a mere handful in that city of Brooklyn. The first men there, as did other great and noble men of the profession, stood by me, and for right and justice.

It will be noted that in Dr. Bardenheuer's above-described method of his first case of total hysterectomy for fibroid, that he, Dr. Bardenheuer was *managing a uterus not enlarged, and having only a pedunculated fibroid*. His method, as he states it, will do very well under such circumstances, and may also be utilised in cases where the abdominal tumour is comparatively small, but when the uterus is much enlarged by an intermural fibroid this method becomes exceedingly difficult, in many cases *positively objectionable*, and in some *impossible*. Dr. Bardenheuer seems to have rounded his *technique* from Freund's method of delivering a small cancerous uterus.

We can see at once that when an intermural tumour is large it necessarily would interfere with the easy handling of the uterus in separating from above the vaginal attachments, and would not only increase the difficulties, but might seriously complicate the operation. With such a tumour as my first case of total hysterectomy, thirteen and a-half pounds intermural fibroid, besides small pedunculated fibroids, the pedicle itself measuring four and one-half inches in diameter, and closely packed down to the cervix with nodular fibroma, then the sudden and great enlargement of the abdominal tumour—with these conditions it would have been next to impossible to have followed the plan Bardenheuer carried out in his operation for his first case of total hysterectomy for fibro-miomata. Apparently the most feasible method was the course I pursued, *first to remove the large abdominal tumour*. After this, holding the pedicle, I attempted, from above, to separate the vaginal attachments. But with the large size of the pedicle even this seemed impossible; so immediately I proceeded as in colpo-hysterectomy, still such was the size of the cervical mass that I had finally to remove it through the abdominal incision.

To separate first the enlarged abdominal tumour I believe in many cases is a necessity; and generally, except in small growths, is a better and a safer method. After removing

the abdominal tumours we can more easily and more rapidly proceed with the work of removing the cervix ; as Professor L. A. Stimson said : " It facilitates the removal of the latter " ; or as Dr. Rufus B. Hall well puts it : " The upper portion cut away gives more working room." Mr. F. Bowreman Jessett¹ expresses the same idea, saying : " If the tumour is small it can be done by one operation, if large the combined abdominal and vaginal method could be employed." Dr. Edebohls² says : " If the tumour extends above the umbilicus, weighing more than about four kilograms, pass a rubber ligature about the cervical part, amputate the bulk of the tumour, &c."

Removing first the abdominal tumour does not necessarily lengthen the operation, nay, in many ways shortens it. While the cervix may generally be removed through the abdominal incision, yet in some complicated cases it may be more readily removed through the vagina, and even that will not necessarily lengthen the operation. In one of my cases of total hysterectomy for cancer (vaginal) the whole operation of removing the cancerous uterus was done in fifteen minutes, and the patient made an excellent recovery. Dr. Boldt³ says of one of his cases of hysterectomy for fibro-myomata : " The *cul-de-sac* was opened very rapidly, requiring but a few moments ; the adhesions and attachments of the bladder were soon loosened and the operation shortly completed."

As an indication that the above-mentioned method is a better procedure, it was the plan adopted by the eminent surgeon, Dr. L. A. Stimson, in his first case of total hysterectomy for fibroid, November, 1888, and reported in the *New York Medical Journal*, January, 1889, p. 277. He says " He proceeded at once to tie the uterine arteries. The uterus had been drawn out through the abdominal wound and the

¹ BRIT. GYN. JOURNAL, May, 1893, p. 89.

² *Am. Jour. of Obstet.*, 1893, vol. xxviii., p. 606.

³ Meeting of the New York Obstet. Soc., November 5, 1889.

organs severed just above the cervix, thus facilitating the subsequent removal of the latter. This had been effected by lifting it with a volcella, while a hole was made with a blunt instrument through the vagina anteriorly and by cutting around it with scissors."

Dr. Bardenheuer, in his second case of total hysterectomy for fibroids, changed his *technique*, as he states : "First the cervix was cut around from the vagina and the skin of the vagina separated from it; after the vagina is tamponned with a sponge, the opening of the peritoneal cavity is performed by a cut reaching from the navel to the symphysis pubis. . . . The appendages are then removed, and now, says he, "The uterus is successively loosened and removed with the tumour."

By this method Dr. Bardenheuer performed his second, third, and fourth cases of total hysterectomy for fibroid. Still I cannot but see that opening first the vagina, before being assured of the condition of the abdominal tumour and abdominal organs, puts one in a position to be surprised by great and unexpected difficulties and to have a possible defeat; but principally this mode of procedure does not seem best for the welfare of the patient.

When Dr. Bardenheuer did his first total hysterectomy (1881) he did not seem in any way to have emphasised the operation or called attention to it as a desirable, or speak of it as a new, procedure. It did not come to him as an inspiration, as a great original thought; he was but following naturally and tentatively in his accustomed method of doing Freund's operation. This, to come as an original thought, would fill the whole soul with enthusiasm, energy, and joy, and zeal to make known the better way. To Chas. Clay belongs the clear broad conception of first doing total hysterectomy for fibroids; and even Freund, in 1878, probably took from Clay's work his idea of removing through the abdominal cavity a cancerous uterus.

When I presented the subject of total hysterectomy for fibroids to the New York Pathological Society, November 23,

1887, and in 1888 presented the same society a thirteen and a-half pound tumour removed by pan-hysterectomy, I spoke of it as being a new procedure, and that it had never before been done or even suggested. Just previously I had spent some months in Europe, had seen many of the great operators there, Savage, Tait, Bantock, Martin, Schroeder, Leopold, Billroth, Winckel, Péan, and many others, and had seen hysterectomy done for fibroids repeatedly, but total hysterectomy for fibroids was not mentioned by any one or apparently thought of. The question which filled the whole horizon was, "the disposition of the pedicle." I had also seen the work of many of our best surgeons in this department in this country; it was never in any way hinted at, and so far as I had read medical journals I had never seen it mentioned; yet I confess I had not read medical literature as much as I wanted and longed to do, for my thoughts and anxieties were entirely absorbed in my practice, private and hospital; still, as far as I had read, I had never seen a reference or an allusion to this method. I was in Strasburg, had there the pleasure of meeting Freund, saw his dismal hospital apartments, but did not see any of his operations, nor did I have any desire to see them. I saw Hegar do some operations, and also had the pleasure of meeting Kœberle.

Pozzi¹ says further: "T. J. Crawford (*Am. Jour. of Obstet.*, May, 1889, p. 500) believes he has invented the method, and calls it a new method of performing hysterectomy." Everyone has a right, and what is done belongs equally to all. We are very glad for Dr. Crawford to bring any new light, as Goethe says, "Light, more light still." Yet when Dr. Crawford's paper first appeared, I wrote in the *New York Medical Record*, September 6, 1890: "Dr. T. J. Crawford, of Memphis, Tenn., sends a communication to the *Am. Jour. of Obstet.*, May, 1889, entitled, 'New Method of performing Hysterectomy.'" He says: "I long

¹ Vol. i., p. 382.

for something simple ;” and adds : “ I propose complete removal of the womb as against all other methods of performing hysterectomy.”

It delights me to know that Dr. Crawford so entirely approves of my procedure, though he made no reference in any way to me or my work. It is also pleasant to see the similarity in thought, as may be noticed in the following quotations from my paper, November 23, 1887, and from Dr. Crawford's article, May, 1889 :—

“ In both methods of operation, extra-peritoneal or intra-peritoneal, the stump is the source of most of the danger ” (Jones).

“ All will agree that the pedicle is a source of danger, it matters not where it may be placed ” (Crawford).

“ What is the good of preserving the stump intra- or extra- peritoneally ? It can be of no service, but may do much damage ” (Jones).

“ Just what good this cervical stump can do I am unable to appreciate, and just what harm would accrue from its total ablation I am unable to divine ” (Crawford).

I then give in order the following reasons why the stump should be removed, Dr. Crawford gives in order “ the advantages,” and by a singular coincidence the four “ reasons ” and four “ advantages ” have a great similarity, and even corresponding numbers.

(1) “ Removing the stump very much shortens the operation ” (Jones).

(1) “ Takes less time to do the operation ” (Crawford).

(2) “ There will be less shock. Certainly to cut through such an organ as the uterus causes more profound shock than severing the vaginal membrane ” (Jones).

(2) “ There is less shock after cutting vaginal than after cutting uterine tissue ” (Crawford).

(3) “ This mode would very much lessen the danger of the operation, principally that it gets clear of the stump, *et toutes ses douleurs* ” (Jones).

(3) “ It does not leave a stump that predisposes to hæmorrhage or infection ” (Crawford).

(4) "The patient would make a more rapid recovery" (Jones).

(4) "It does not give a protracted convalescence" (Crawford).

Dr. Crawford adds as a fifth advantage that "the removal of the cervix does not leave a weakened abdominal wall." On this point I am sorry to have to disagree with Dr. Crawford, for, whenever laparotomy is performed the abdominal wall is unnecessarily weakened, and consequently must give more or less danger to hernia.

Conclusion.—Our great object in trying or studying any method is to diminish the dangers of the operation and lessen the suffering of the patient.

A RÉSUMÉ OF DUBLIN GYNÆCOLOGY FOR THE YEAR
1897.

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As I believe this is the first occasion in which a report of Dublin Gynæcology has appeared in this Journal, it may be of interest to its readers to have put before them a brief statement of the number of hospitals in Dublin in which gynæcological cases are treated, of the number of available beds, and of the number of cases treated during the year.

The hospitals fall into two classes :—

A.—Special hospitals.

B.—General hospitals, with gynæcological beds.

A.—There are three special hospitals :—(1) The Rotunda, with 36 gynæcological in addition to 62 lying-in beds ; (2) The Combe, with 19 gynæcological in addition to 34 lying-in beds ; (3) The National Lying-in Hospital, with 8 gynæcological in addition to 30 lying-in beds.

B.—There are 7 general hospitals which admit gynæcological cases :—(1) Mater Misericordiæ, 14 beds ; (2) St. Vincent's, 14 beds ; (3) Sir Patrick Dunn's, 8 beds ; (4) Adelaide, 6 beds ; (5) City of Dublin, 5 beds ; (6) Stephen's, 3 beds ; (7) Richmond, Whitworth and Hardwicke, 8 beds ; (*vide infra*).

At first sight this may seem an unduly large number of beds for a city the size of Dublin. It must, however, be remembered that it is not from Dublin alone and its immediate neighbourhood that patients come, but also from practically the whole of Ireland, with the exception of the north-east counties. In Belfast there is one special hospital

for gynæcological cases, and four general hospitals with gynæcological beds, making in all a total of 59 gynæcological beds. [This statement refers only to the past year, 1897. Two large hospitals are about to open beds for gynæcological cases—the Royal Victoria, 12 to 15 beds, and the Mater Infirmorum, 12 beds.] In Cork there are no hospitals entirely devoted to gynæcology, and only a few beds set apart for that purpose in the general hospitals, so that Dublin and Belfast have practically to provide beds for the treatment of the gynæcological cases of the whole country. It is thus seen that the number of beds is not excessive, and if further proof were wanting, it comes in the fact that the beds are always occupied.

The following table shows the number of beds and the number of cases treated in each of the hospitals mentioned during the year 1897 :—

Class	Name	Number of Gynæcological Beds	Number of Gynæcological Cases treated, 1897
A. ...	(1) Rotunda	36	546
	(2) Combe	19	207
	(3) Holles Street	8	...
B. ...	(1) Mater Misericordiæ	14	about 200
	(2) St. Vincent's	14	128
	(3) Sir P. Dunn's	8	69
	(4) Adelaide	6	...
	(5) City of Dublin	5	28
	(6) Stephen's	3	33
	(7) Richmond, &c....	0 ¹	12

¹ The gynæcologist can borrow beds from the surgeons when required.

The next table shows the number of major and minor operations which have been performed during the year. Under the term major operations are included all cases in which the peritoneal cavity was opened either by the abdominal or vaginal route. Under the term minor operations are included all such cases as curettage, perinæorrhaphy, trachelorrhaphy, colporrhaphy, cervical amputation, and the removal of small growths from the genital tract.

In discussing the nature of the operations I propose to take each hospital separately.

Class	Hospital	Major Operations	Minor Operations
A. ...	(1) Rotunda	70	334
	(2) Combe	6	47
	(3) National	...	...
B. ...	(1) Mater Misericordiæ	...	...
	(2) St. Vincent's	45	65
	(3) Sir P. Dunn's	18	84
	(4) Adelaide	10	...
	(5) City of Dublin	2	8
	(6) Stephen's	4	29
	(7) Richmond, &c.	4	9

A. (1) *Rotunda Hospital*.—This hospital contains 36 beds appropriated to gynæcological cases, in addition to 62 mid-wifery beds.

During 1897, 546 patients were treated ; 70 major operations were performed, out of which number 7 patients died, and 334 minor operations, out of which number 1 patient died.

The major operations were as follows:—(i.) 15 ovariectomies (13 cystic, 2 solid) with 1 death ; (ii.) 15 salpingo-oöphorectomies for salpingitis, pyo- and hydro- salpingitis, with 1 death ; (iii.) 6 removals of appendages for ruptured tubal pregnancy or hæmato-salpinx ; (iv.) 9 pan-hysterectomies for myoma with 2 deaths ; (v.) 3 myomectomies ; (vi.) 1 abdominal cœliotomy for septic peritonitis, died ; (vii.) 3 abdominal abscesses opened, 1 death ; (viii.) 2 exploratory abdominal cœliotomies ; (ix.) 4 ventral hernia ; (x.) 1 abdominal cœliotomy to break down retro-uterine adhesions ; (xi.) 1 vaginal hysterectomy for myoma by *morcellement* ; (xii.) 2 vaginal hysterectomies for carcinoma of cervix, 1 death ; (xiii.) 2 colpotomies for vaginal fixation of uterus, radical cure of prolapse ; (xiv.) 3 colpotomies for removal of diseased ovaries ; (xv.) 3 exploratory colpotomies.

Seven patients died. Of these 1 (vi.) was admitted with general septic peritonitis resulting from a septic ulcer on the cervix of a prolapsed uterus. One (ii.) died after an operation for pyo-salpinx of intestinal obstruction due to the kinking of the bowel by an adhesion. One (i.) died of septic pneumonia after an ovariectomy. Two cases (iv.) died after pan-hysterectomy, one of complete intestinal paralysis, the other from collapse during the operation. This last case was admitted in a condition of great debility from severe menorrhagia. The operation was postponed for several weeks to allow her to recover her strength as far as possible; as, however, she did not improve and as the menorrhagia could not be lessened, it was decided to give her the chance of an operation. One patient (vii.) died of tubercular peritonitis. On admission she had a large abscess filling the lower part of the abdomen, the opening of which caused a marked improvement in her condition for a time. The abscess cavity did not, however, close, her temperature gradually rose again, and she died of exhaustion about four weeks after the operation. At the *post-mortem* examination the abscess was found to have formed round the abdominal ostium of a tuberculous tube, and a similar but smaller collection of pus was found round the ostium of the other tube. At the operation a piece of the small intestine, which was firmly adherent to the abdominal wall, was cut into. It was immediately sutured and united perfectly, in spite of the fact that pus was flowing freely over it from the abscess sac.

One case of vaginal hysterectomy for carcinoma (viii.) died, with partial suppression of urine. At the autopsy she was found to have granular kidneys of an advanced degree. There was also a considerable amount of sloughing of the tissues at the seat of operation. The ureters had not been damaged. In one patient an intra- and extra-uterine pregnancy were found to co-exist. The latter was removed by abdominal cœliotomy, and the patient made a good recovery; eight weeks after the operation she was

delivered of a six months' foetus, which did not survive its birth.

Three hundred and thirty-four minor operations were performed and of these 1 patient died. This was a simple case of curretting for endometritis, and by some most disastrous accident the patient got acute sepsis.

A very unusual case of vaginal hæmatoma was operated upon. The patient, who was nearly nine months' pregnant, was admitted from the country with a dark purple mass protruding from the vagina. It measured about four inches in length by two inches from side to side, and was commencing to slough. It was formed by the posterior vaginal wall, beneath which a vessel had ruptured. The blood clotted and by its weight caused the wall to prolapse through the vulva as a rectocele, whilst at the same time the pressure of the coagulum cut off the blood supply. The tumour was removed and the edges of the vagina brought into apposition with sutures. The patient was confined a fortnight afterwards without further trouble. For the other minor operations *vide infra*.

(2) *Combe Hospital*.—This hospital contains 19 gynaecological in addition to 34 lying-in beds. The work done in it during 1897 was very much below the average, as the greater number of the wards were closed for nearly six months for the purpose of painting.

The total number of patients admitted was 207. Six major operations were performed, consisting of the following:—(i.) 1 removal of both ovaries for dermoid cysts; (ii.) 1 abdominal hysteropexy for prolapsus uteri; (iii.) 1 pan-hysterectomy for myoma uteri; (iv.) 1 abdominal coeliotomy for tubercular peritonitis; (v.) 1 double oöphorectomy for myoma uteri; (vi.) 1 radical cure of umbilical hernia. All the patients recovered.

Forty-seven minor operations were performed, all of which recovered (*vide infra*).

(3) *The National Lying-in Hospital* contains 8 beds for gynaecological cases. I regret that I cannot obtain its statistics.

B. (1) *The Mater Misericordiæ Hospital* contains 14 gynæcological beds. I regret that owing to the illness of the gynæcologist I am unable to obtain its statistics. About 200 patients were treated during the year.

(2) *St. Vincent's Hospital*.—The gynæcological department of this hospital contains 14 beds, and during the year 128 patients were treated. The gynæcologist is certainly to be congratulated on the results he has obtained, as amongst 45 major and 65 minor operations there was no mortality. The number of admittances is also considerably diminished by the fact that the hospital is only open for nine months of the year. The major operations were 45 in number and included:—(i.) 4 retro-peritoneal hysterectomies for myoma; (ii.) 1 pan-hysterectomy for myoma; (iii.) 3 myomectomies; (iv.) 2 double oöphorectomies for myoma uteri; (v.) 1 removal of broad ligament fibro-myoma; (vi.) 22 ovariectomies (3 solid); (vii.) 4 salpingotomies for salpingitis and pyo-salpinx; (viii.) 1 salpingotomy for hæmato-salpinx; (ix.) 1 removal of appendix; (x.) 1 cœliotomy for ruptured tubal pregnancy; (xi.) 1 radical cure of ventral hernia; (xii.) 4 exploratory cœliotomies.

Sixty-five minor operations were performed (*vide infra*).

(3) *Sir Patrick Dunn's Hospital*.—There are 8 beds set apart for gynæcological cases in this hospital; 18 major operations were performed, and of these two died. They consisted of:—(i.) 5 ovariectomies; (ii.) 2 radical cures of umbilical hernia; (iii.) 1 nephrectomy for suppurating kidney (died); (iv.) 3 salpingo-oöphorectomies (in 1 case for myoma uteri); (v.) 3 pan-hysterectomies for myomata, 1 died; (vi.) 4 vaginal fixation of uterus, to cure retro-version.

In the fatal case of nephrectomy (iii.) a large suppurating kidney was removed, from which the patient had been suffering for many months. It was firmly adherent in all directions, especially to the intestines. The patient never rallied from the operation, and died on the seventh day of exhaustion; temperature sub-normal. One case of pan-hysterectomy died of septic peritonitis. The patient's

ovaries had been removed about four months previously with a view to checking the growth of the tumour and the menorrhagia. As, however, the latter continued very freely it was decided to remove the uterus.

The minor operations were 84 in number, but amongst them are included about 40 cases which were not admitted to the hospital (*vide infra*); all recovered.

(4) *Adelaide Hospital*.—This hospital, which contains 6 gynæcological beds, is greatly hampered in its work by the fact that from the nature of its foundation none but Protestants can be admitted. The major operations performed were 10 in number, all of which recovered. They included:—(i.) 1 ovariectomy; (ii.) 2 salpingotomies, one for pyo-salpinx, the other interstitial salpingitis; (iii.) 1 anterior colpotomy, partly exploratory and partly in order to perform vaginal fixation of the uterus; (iv.) 2 vaginal hysterectomies for myoma uteri, by morcellation; (v.) 1 vaginal hysterectomy for carcinoma uteri; (vi.) 3 cases of radical cure of prolapse by vaginal fixation.

In group (iv.) the uteri were removed by Doyen's method of morcellation. The fragments of the uteri weighed respectively two and three pounds, but as these contained no blood the original weight was more. The minor operations included the removal of a sub-mucous myoma by morcellation from the interior of the uterus, by means of a spoon forceps and scissors (*vide infra*). All the patients recovered.

(5) *City of Dublin Hospital*.—In this hospital 5 beds are devoted to gynæcological cases; 28 patients were admitted during the year. Two major operations were performed:—(i.) multilocular ovarian cyst; (ii.) abdominal coeliotomy for septic peritonitis. The latter case was admitted with a temperature of 105° Fahrenheit. On opening the abdomen a quantity of foetid gas and pus escaped. Both patients made a good recovery.

Eight minor operations were performed; all recovered.

(6) *Stephen's Hospital*.—As the total number of beds at the disposal of the gynæcologist in this hospital is very

small—3—it is only possible for him to admit a correspondingly small number of patients during the year. The total number of admittances was 33 and all of these required operation. Four major operations were performed, consisting of :—(i.) 3 ovariectomies ; (ii.) 1 abdominal cœliotomy for chronic peritonitis. In the latter case the patient suffered from severe pains due to peri-uterine adhesions. These were broken down in great part, and the patient left the hospital with the pains completely cured. All the patients recovered.

Twenty-nine minor operations were performed (*vide infra*), including 1 case of Alexander's operation for the cure of chronic retroversions—an operation which is unduly neglected in Dublin. All the patients recovered.

(7) *Richmond Hospital*.—In this hospital there are no beds exclusively appropriated to gynæcology, accordingly the gynæcologist has to depend entirely on the willingness of the surgeons to lend beds for special cases.

Twelve patients were admitted during the year. All were operated upon and all but one recovered. In this fatal case (i.) abdominal cœliotomy was performed on account of a ruptured pyo-salpinx. The damaged tube was removed, but the patient died from septic peritonitis.

The other major operations included :—(ii.) 1 exploratory abdominal cœliotomy ; (iii.) 1 cœliotomy for hæmatoma of the broad ligament ; (iv.) 1 anterior colpotomy for the removal of a left-sided salpingitis and ovary containing a blood cyst.

Nine minor operations were performed ; two for the cure of vesico-vaginal fistulæ being upon the same patient. All the patients recovered (*vide infra*).

It will be seen from the foregoing tables that out of 159 major operations only 10 deaths occurred, and out of 576 minor operations only 1 death. Out of these eleven deaths, four can scarcely be attributed to the operation ; viz :—A. (1) (vi.) and (vii.), B. (3) (iii.), B. (7) (i.).

The principal agent in the production of this high rate of recoveries is, I am convinced, to be found in the careful

asepsis which is observed in operating. As the Rotunda may be not unjustly considered one of the pioneers of *aseptic* surgery in these countries, it may be of interest to describe the precautions which are taken there to ensure asepsis during operation—precautions which are followed, with

MINOR OPERATIONS.

Description of Operation	Rotunda	Combe	National	Mater	St. Vincent's	Sir P. Dunn's	Adelaide	Stephen's	Richmond
Curetting	185	23	...	...	47	57	...	13	4
Colporrhaphy	20	...	...	...	...	...	...	1	...
Trachelorrhaphy	4	...	...	...	2	...	1	7	1
Perinæorrhaphy	32	...	...	...	...	8	3	4	1
Amputation of cervix	18	...	...	...	5	2	2	...	1
Division of cervix	23	14	...	...	...	...	...	...	...
Trachelorrhaphy and perinæorrhaphy	6	...	...	...	...	...	...	...	...
Amputation of cervix and perinæorrhaphy	8	...	...	...	...	...	...	...	...
Radical cure of prolapse	6	...	...	...	...	...	...	...	...
Recto-vaginal fistula	1	...	...	...	...	...	...	...	...
Vesico-uterine fistula	...	...	...	...	1	...	...	...	...
Vesico-vaginal fistula	...	...	...	...	2	4	...	...	2
Alexander's operation	...	...	...	...	...	...	...	1	...
Marion Sims' treatment of inoperable cancer	2	...	...	...	...	...	...	...	...
Fibrous polypus	2	...	...	...	...	4	...	1	...
Submucous myoma (morcellation)	1	2	...	...	4	2	...	...	...
Schultze's reposition of uterus	5	...	...	...	1	2	...	...	...
Cystoscopy	2	...	...	...	...	...	...	1	...
Washing out of bladder	6	...	...	...	1	...	...	...	...
Bartholinian cyst	1	...	...	...	...	...	...	1	...
Removal of incarcerated pessary	2	...	...	...	...	...	...	...	...
Epithelioma of clitoris	1	...	...	...	...	...	...	...	...
Urethral caruncle	2	3	...	...	2	...	...	...	...
Sloughing hæmatoma of vulva	1	...	...	...	...	...	...	...	...
Mammary abscess	1	...	...	...	...	...	...	...	...
Ischio-rectal abscess	1	...	...	...	...	...	...	...	...
Vaginal abscess	1	1	...	...	...	...	...	...	...
Excision of hymen	...	2	...	...	...	...	...	...	...
Hæmorrhoids	2	...	...	...	2	...	...	...	...
Lipoma of abdominal wall	...	...	...	...	1	...	...	...	...

more or less difference of detail, in the great majority of the other Dublin hospitals. The operating theatre is divided into two parts by a large sheet of glass. The larger part is devoted to the gallery for the students, the steam sterilisers

and the wash basins. The smaller portion is the operating theatre proper, and into it are admitted only the operator, his immediate assistant, the anæsthetist, and the necessary nurses. The walls and floor of the theatre are such that it can be completely washed out with a hose, this being done the day before the operation. The operating table used is either that designed by Martin, of Berlin, or one which is capable of being altered so as to obtain the Trendelenburg position. The instruments are sterilised by boiling; the towels, operators' coats, dressings, and sponges are sterilised by steam in a Lautenschlager's steriliser. None but gauze sponges are used, and when once used are destroyed. The patient is given a warm bath the night previous to the operation, the skin of the abdomen is washed with soap and water, then with ether, and is finally covered with a compress of corrosive sublimate and glycerine 1 in 400. The pubis is shaved and, if the uterus is to be removed, the vagina is plugged with iodoform gauze twice during the twenty-four hours previous to the operation. The morning of the operation the vagina is douched in all cases, and the thighs and adjacent parts are washed with soap and water.

The patient is anæsthetised in a separate room, and then brought into the theatre, where a sterilised dressing gown is put on. When on the table the compress is removed, and the skin of the abdomen is again washed with ether, followed by corrosive sublimate solution 1 in 500. This last washing is done by the operator and his assistant.

The operator and his immediate assistants wash their hands for about ten minutes with soap and water and a nail brush, and then immerse them for one or two minutes in corrosive sublimate 1 in 500. Flushing out of the abdomen is never adopted except in cases of septic peritonitis; then sterilised water or boracic lotion is used. The abdominal cavity is never drained unless septic matter has escaped, or unless there remains a very extensive area from which general oozing is taking place. In these cases a Miculicz

bag made of sterilised gauze with gauze packing is most generally used, more rarely a simple gauze drain. (In St. Vincent's Hospital great importance is attached to the use of normal saline solutions for flushing out the peritoneal cavity.) The dressings used for the wound consist of ordinary sterilised gauze sponges, covered in turn with the so-called cellulose dressing which has also been sterilised.

If the temperature remains below 100° F. the wound is not dressed for a week, when the stitches are removed. If re-dressing before this time is necessary, double cyanide and sal-alembroth gauzes are used instead of the sterilised sponges.

It will be seen that the operation of vaginal cœliotomy has not been neglected in Dublin. It is undoubtedly an operation which must be taken into very serious consideration when discussing the treatment of many cases of ovarian and uterine tumour. It is already firmly established in the case of operable malignant disease of the uterus, and scarcely less firmly in the case of myomata of a certain size. Its value, as a method of removing small ovarian tumours, is not by any means as generally conceded as it ought to be, or, as I think I may say, as it will be. Neither is sufficient importance attached to it as an exploratory operation for the purpose of diagnosing obscure conditions of the uterine adnexæ. For the removal of the appendages its use is limited to those cases in which the tumour is not too large to be brought intact through the opening made in the vaginal vault, or too solid or of too dangerous contents to permit of its size being reduced by puncture; to those cases in which there are dense adhesions present, and to those cases in which the uterus can be drawn sufficiently far down to permit of the necessary incision being made. The size of the vagina should also be taken into account, as, though the operation can be performed in a nullipara it is considerably more difficult.

The treatment of myomata of the uterus is of considerable interest, especially as such great advances have been

made in it of late. I think I may say that no single method of treating these dangerous tumours is exclusively adopted by any Dublin gynæcological surgeons. Each case is treated on its own merits and in the manner that seems most suitable at the time of operation. Extra-peritoneal treatment of the stump has, however, been practically given up, its place being taken almost entirely by the operation usually described as pan-hysterectomy. The removal of the tumours *per vaginam* by morcellation is, in Dublin at least, usually limited to cases in which the tumour does not reach above the umbilicus. Though in many cases a very tedious operation, its advantages are great—the entire absence of shock and consequent rapid recovery of the patient, the fact that all handling of the intestines is absent, and the diminished risk of septic infection. I have seen many cases operated on in this manner for tumours weighing from one to three pounds, in which the only bar to allowing the patient to get up on the tenth day was the fact that the perinæum had been divided in order to enlarge the vulvar opening, and that further rest was necessary for its complete union.

In conclusion, I wish to thank those gentlemen who have so kindly permitted me to make use of their statistics.

REVIEWS.

A HANDBOOK OF MIDWIFERY. By W. R. DAKIN, M.D.,
B.S.(Lond.), F.R.C.P. Longmans, Green & Co.

Of text books in obstetrics and gynæcology there are many, and the student must nowadays have some difficulty in the matter of selection. We certainly hope that this latest addition to the literature of the subject will not escape his notice; and if he is not too alarmed at the thought of tackling a volume of 600 pages, he will be amply rewarded by a very careful perusal.

We regret that we cannot allow ourselves the pleasure of going through Dr. Dakin's work at greater length, for we found ourselves thoroughly interested in his style and method of writing. Though the number of pages and the size of the type made the book at first seem perhaps over-weighted in material, it soon became clear that it was really just the reverse. Dr. Dakin has occupied a very large amount of space with illustrations—400 in all—and nearly all of these are original. The advantage of this fact is most striking, and Dr. Dakin's facile pencil has enabled him to put into his illustrations just so much, and only so much, as he wished, and as was necessary to make his pictures illuminate the text. Moreover, these illustrations have enabled him to pursue a clear and succinct style with very satisfactory result. As he runs through the whole subject in this volume there is no need to comment in detail on the various accepted views expressed, to which Dr. Dakin has at times added his own.

The scheme of the book is briefly as follows:—It is divided primarily under the headings of The Physiology and The Pathology of Pregnancy and Parturition. The Physiology

is further sub-divided into the Physiology of Pregnancy, Physiology of Labour, Management of Labour, Physiology of the Puerperal Period and the New-born Child; while the Pathological Section includes Pathology of Pregnancy, Obstetric Operations, Pathology of Labour, Pathology of the Puerperal Period, and Pathology of the New-born Child.

The portions which struck us as most graphic are those describing the mechanism of labour. The various positions of the head are most clearly described, and such stumbling-blocks to the student as face presentations are expounded in a simple, yet very lucid, manner. Here again the illustrations lend immense help. The difficulties that not only the beginner but also the general practitioner often finds in mapping out the position of the foetus *per hypogastrium* will be considerably lessened by a careful study of the woodcuts on pp. 150-152. We cannot remember to have seen anything like these in other English text books.

Dr. Dakin, while writing tersely, has evidently done so with great care, so that he is careful to omit no details, while avoiding to give them undue prominence.

We cannot but congratulate Dr. Dakin on his work, and we feel sure that it has only to become known to be widely appreciated.

A PRACTICAL TEXT BOOK OF THE DISEASES OF WOMEN.

By ARTHUR H. N. LEWERS, M.D.Lond. H. K. Lewis.
Fifth Edition.

The publication of a fifth edition of this work shows that Dr. Lewers has found a large demand for his popular treatise on gynæcology.

The scope of the work is well known, and remains much the same in this edition, though it has been revised and brought up to date by sundry interesting additions. The chapters on Extra-uterine Gestation and Hysterectomy have been much improved and brought thoroughly into line.

Those who have ceased to be students will be interested

in Dr. Lewers' report on his operation cases for cancer of the uterus.

He has had over thirty supra-vaginal amputations of the cervix; nineteen of those were brought before the Medico-Chirurgical Society in 1892, and out of them four have remained well for ten years, nine years, eight years, and seven and a half years respectively.

Out of thirty vaginal hysterectomies he had three deaths. The dates of these are not apparently given.

This edition will no doubt meet with continued favour at the hands of the profession.

ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES. By C. E. SAJOUS, M.D. Five Volumes for 1896. F. A. Davis.

We have received the annual set of volumes which continue to be edited in the same able manner. They constitute a monument of industry and labour, and contain, as usual, an immense amount of information.

Half of volume ii. is given up to obstetrics and gynaecology. It is contributed to by well-known men, and makes a good volume of reference. Of course some of it is already a little out of date, and many of the subjects referred to have been quoted in this journal. Still, that does not detract from its usefulness as a book in harmony with the other volumes of reference.

BRAITHWAITE'S RETROSPECT OF MEDICINE. By J. BRAITHWAITE, M.D.Lond., and E. F. TREVELYAN, M.D.Lond., B.Sc., M.R.C.P. Vol. cxvi., July—December, 1897. Simpkin, Marshall, Hamilton, Kent & Co.

This last volume maintains the usual excellence of the series. The papers are very practically selected, and form a very interesting collection (under one cover) of the principal literature of the six months. We are sure that many medical men must welcome these volumes as a means of posting up their knowledge, and must thank the authors for doing some sifting for them and presenting the residue in a compact and interesting form.

SUMMARY OF GYNÆCOLOGY, INCLUDING
OBSTETRICS.

GYNÆCOLOGICAL.

DIFFERENTIAL DIAGNOSIS OF APPENDICITIS AND INFLAMMATION OF THE UTERINE APPENDAGES. By M. DOLÉRIS. *Journal de Médecine de Paris*, January 2, 1898.

The principal points to keep in view in these cases are the beginning and the seat of the disease. Appendicitis is an affection of the iliac fossa and it is special to the right side. Salpingitis, excepting in cases of old adhesions retaining the fallopian tube high up, is a pelvic affection. The error is therefore possible only when there is an old inflammation of the appendages on the right side, with persisting adhesions of the tube in the region of the appendix; yet in those cases we are guided by the occurrence of a previous attack of salpingitis which, in order to be located so high, has necessarily been developed during the puerperal state.

We are thus enabled to eliminate the difficulty of the diagnosis in nulliparæ in whom acute salpingitis presenting symptoms comparable with those of appendicitis can only be looked upon seriously as so rare as to afford good reasons to exclude such hypothesis.

From a symptomatic point of view, there is a notable difference between the two affections. In the one, we find the phenomena characterising acute affections of the alimentary canal which are prominent and mark the beginning of the illness; in the other, we have the signs of uterine inflammation first, extending subsequently to the appendages. In their course, we have the frequency of bilaterality and of habitual paroxysmal alternation in the inflammation of the appendages which has no existence in appendicitis.

The persisting pain in the right ilio-pelvic region so often met with in nervous women can possibly be a source of error, but it is a very movable and changing pain, sometimes affecting the skin, sometimes the muscular tissue, or again it may be deeper, when it seems to be located in some branch or other of

the hypogastric plexus. In this way it resembles closely facial neuralgias affecting various branches of the fifth nerve, but undoubtedly has its seat in some branch or other of the lumbo-sacral nerves. However, the instability of this unique pain as a symptom being known, too much stress should not be laid upon it, and the other symptoms should be elucidated with greater precision. The intestinal inflammation has its seat higher up, the inflamed appendages tend to descend towards the bottom of the pelvis, except when the infection is produced in connection with pregnancy or at the time of labour. The uterus then remains elevated and the position of the diseased appendage is altered, but in all other circumstances the fallopian tubes descend and remain at a lower level than they occupy normally. There is, therefore, something very typical in the seat of the lesion. The general phenomena are also different, there must be a puerperal or a gonorrhœal infection to produce an inflammation of the appendages. The obvious conclusion is that cases really difficult to diagnose must be exceptional.

It would not appear from the various reports that have been published recently on the subject, that the two affections would frequently occur together, notwithstanding the arguments brought forward from an anatomical point of view, particularly the relations of the lymphatic system of the appendix and broad ligament. Admitting the possibility of a subserous appendicitis extending towards the cellular tissue of the pelvis and reaching the tissue of the broad ligament, it would not necessarily affect the parenchyma of the fallopian tube and ovary. In the same way it is well known by experience that the muco-parenchymatous inflammation of the tubes and ovaries remains limited to that region, and that even subserous inflammation of the broad ligament, which hardly occurs except in serious puerperal infections, is limited to the pelvic region, as has been shown by autopsies, and by operations performed too hastily or after an undue delay.

It must be admitted, however, that theoretically the continuity of the sub-peritoneal tissue from the pelvis to the abdomen would favour the propagation of inflammation in the manner of inflammatory œdema. This view, however, could only apply to the acute stage of the beginning of the affection or to slow burrowing purulent infiltration, but these forms of appendicitis are really the most rare and this constitutes the most important argument against this theory of propagation of the inflammation. It is in its immediate vicinity that appendicitis reacts, producing exudation, adhesions and abscesses, even in the midst of intestinal loops.

Therefore the experience hitherto acquired favours the opinion that the reaction of the two lesions upon each other rests

on a hypothesis, and the question of the differential diagnosis exists entirely by reason of the obscurity of the symptoms and the difficulty of determining accurately the nature of the lesions by ordinary methods of investigation in those exceptional cases where such question arises. A first attack, of course, would be easily diagnosed, as then the seat of the pain as determined by direct examination would indicate the nature of the lesion, bearing in mind that in the condition of gestation the appendages would be found higher in the abdomen than at other times, and the condition as well as other symptoms present would explain the nature of the lesion.

P. Z. H.

SUBMAMMARY INFUSIONS OF SALT SOLUTION IN PRIMARY ANÆMIA, FROM HÆMORRHAGE, IN SHOCK, AND IN SEPTIC INFECTION. By J. G. CLARK, M.D., Resident Gynæcologist in the Johns Hopkins Hospital. *The American Journal of Obstetrics and Diseases of Women and Children*, June, 1897.

For the last two years, in the Gynæcological Department of the Johns Hopkins Hospital, submammary saline infusions have been used in every case where there has been the slightest symptom of depression after operation, or of shock from the loss of blood in surgical or puerperal cases, and, from the cases reported, with good effect.

Experience in cases of puerperal and general infection has not been extensive. One case of puerperal sepsis is, however, reported in full. A week after her confinement the patient was vomiting all her nourishment, her eyes were sunken, temperature 105 to 106° F., and she presented all the appearances of impending death. Submammary saline infusions were then used, a litre was first used and the improvement was well marked. A litre a day was given for seven days, and each time an improvement in the pulse was observed. Her temperature fell on the third day, and she finally recovered perfect health. The method of infusing the saline solution is as follows:—Graduated glass infusion jars of 1,000 cubic centimetres capacity are used as reservoirs for the solution. The bottles are connected by five feet of rubber tubing to a long slender infusion needle, similar to an aspirating needle. The entire apparatus is kept sterilised. The breast must be rendered aseptic, and then lifted well up from the chest with one hand while the needle, with the fluid flowing from it, is quickly thrust beneath the gland. Seven hundred cubic centimetres may be injected under each breast. The breast quickly begins to distend as the fluid passes into the loose cellular tissue. After withdrawing the needle the puncture is closed with adhesive plaster.

J. F. J.

ON MYOGENITAL AND MUSCULAR CONSTIPATION OF A CHRONIC NATURE IN WOMEN. By Dr. LUDWIG PINCUS. *Archiv. für Gynäkol.*, liii., 3, p. 413, 1897.

While neurogenetic constipation is to be taken as a local symptom of general neurasthenia, myogenic constipation is caused by the traumatic disorders (injuries in labour) of the musculature of the pelvic floor, conjoined with congenital or acquired feebleness of the abdominal pressure. By traumatic mischief due to labour Dr. Pincus does not mean those of the perinæum, but of the levator ani muscle. This muscle it is which, acting concurrently with the abdominal pressure, causes the expulsion of the contents of the bowel; without the conjoint action the muscle acts vicariously for the sphincter ani. If while the sphincter is retained the levator is injured from trauma or ischæmia during delivery, and the abdominal pressure is at the same time weakened, there arises retention of the stool. These lesions can be recognised by abnormal prominence of the pelvic floor or by vaginal examination.

The prophylaxis consists in guarding the pelvic floor as much as possible during labour and in the quick re-establishment of the muscular tone as soon as possible after delivery. The treatment must be expective apart from the removal of the motions, and is accompanied or preceded by methodical strengthening of the pelvic diaphragm.

A STUDY OF THE COMPOSITION AND DISEASE OF THE INSPECTED PROSTITUTION IN PETERSBURG. By Dr. OBOSNENKO. *Vratch*, October, 1897. (Petersburg Dissertation).

After studying the reports of the Medico-police Committee and the Lock Hospitals for 1891, 1892, and 1893, the author arrived at the following leading conclusions:—

(1) It is to be desired that a woman should only be inscribed in the books of the committee when there is precise, undoubted, carefully verified, and convincing proof that the woman is actively following prostitution.

(2) The want of a definite home and occupation, presence in the night houses, should only serve as conditions for suspicion, but they should not give the power to treat such a woman as an open prostitute.

(3) The existing power of inspection of vagrant women is exceedingly oppressive to the lower orders of working people, and does not secure the working woman from the pleasure of the lowest police officials, and it frequently compels her, as the only means of escaping this state of things, to become a voluntary subject of the committee.

In this way, thanks to the systematic arrest and supervision, many lower class women, out of work, are pushed directly into prostitution, of which they never thought before, while other persons openly trading their persons, but living in first class hotels, or acting as ballet girls, &c., do not come under inspection and may widely spread disease.

(4) The vagrant women should be taken out of the hands of the committee and entrusted to another supervision, if this be considered indispensable (1.6 per cent. syphilis), a committee for the oversight and separation of lower class women.

(5) It is desirable to place upon the committee some of the legal and civic officials of the town.

(6) There should be more State medical officers and especially inspecting committees, and some test of the efficiency of the latter should be worked out.

(7) The whole matter of medico-police inspection should be investigated and brought more in accordance with the times and Russian legislation.

(8) It is very desirable that there should be some philanthropic bodies working side by side with the medico-police committee, and ready to take a repentant woman or a youthful prostitute. Members of this body or society should be selected to serve on the committee, and the bodies themselves should be popularised in every way.

Of the existence of the medico-police committee every serving maid in the metropolis is aware, but of the charitable societies it is impossible to get any knowledge, even at the hospital.

(9) This latter question is very imperative for the cure of syphilitics, whether prostitutes or volunteers. Instead of increasing the Lock Hospitals, would it not be better to build new hospitals for women suffering from skin diseases?

(10) As at the present time the statistics as to the existence of gonorrhœa among prostitutes are very unreliable, it is necessary in the cause of better treatment that gonorrhœa be studied and investigated still more by bacteriological means.

(11) The greater proportion of the venereal diseases and syphilis suffered by prostitutes occurs during the first six years of their registration (narrower vagina, greater susceptibility of the mucous membranes in youth).

(12) The number of soft chancres gradually diminishes, which points to the benefit of inspection upon prostitution.

(13) The women with their tickets in order suffer from soft chancres less than those without tickets.

(14) The number of syphilitics in the Petersburg centre for inspection of prostitution reaches 52 per cent. Of course these figures include many women who have had syphilis some time and who therefore cannot infect.

(15) The first infection by syphilis is met with at all ages, so that it is impossible to say that in no case after 25 years of age will the infection be rare and exceptional.

(16) Many women, in spite of long prostitution, do not become infected by syphilis; at present we cannot account for this, since the supposition that these women are syphilized is not to be demonstrated.

NEW RESEARCHES ON DISINFECTION OF THE HANDS. By Prof. FUERBRINGER and Dr. FREYHAU. *Deutsche Med. Wochens.*, 1897.

The works of Ahlfeld and Reinicke upon disinfection of the hands have been already referred to, and likewise those of Kroenig and Menge upon the bacteriology of the female genitalia; and the present new ideas on obstetric assistance and the preparation of the hands of the operator and the part to be operated upon in gynæcology and obstetrics naturally and logically follow.

Professor Fuerbringer has repeated the experiments of Ahlfeld, of Reinicke, and of Poten with corrosive sublimate, alcohol, and lysol, controlling the results of the experiments by various methods of culture, and either using alcohol or not before the other disinfectants upon the parts which had been previously disinfected mechanically by the brush and flannel. He comes to the following conclusions:—

(1) Alcohol is directly fatal to the bacteria; (2) by its property of removing the fat from the hands and its power of uniting with water, it not only opens the way to easy disinfection of the tissues, but it prepares the ground conveniently for the disinfectant used after the alcohol to get the best hold of the parts to be disinfected; (3) it detaches the squamous epithelium with its impurity and the bacilli contained therein.

Fuerbringer quotes the work of Paul and Kroenig in support of his own (*Zeit. fur Phys. Chemic.*, 1896, xxi., 3). These studies show the great power of alcohol in exalting the power of silver nitrate and corrosive sublimate, and the authors believe this is due to the alcohol facilitating the ingress and contact of the disinfectant with the micro-organisms.

Ahlfeld thinks that the power of alcohol is due to its facile penetration and filtration through the layers of the epidermis.

ON PROLAPSE OF THE FEMALE URETHRA. By Dr. SCHOLTZ. *Schmidt's Jahrbücher*, 1897, p. 241.

Scholtz has 9 cases of prolapse of the female urethra from Kümmell's clinic to communicate. The symptoms consist gener-

ally of more or less severe pains, trouble in urination and some bleeding.

The treatment is greatly influenced by the sudden origin of the prolapse, and its being brought to notice early, since it is only when thus early noticed that there is any likelihood of success. In long established prolapse of gradual origin the removal of the whole prolapsed tissues by means of the thermo-cautery is the best treatment.

It is generally necessary to introduce a self-retaining catheter after the operation, which fulfils the double task of pressing the mucous membrane against the mucous coat, and of preserving the wound surface from contamination by the urine.

ON CYSTOSCOPY AND CATHETERISATION OF THE URETERS IN WOMEN. By G. WINTER (*Zeit f. Geb. u. Gynäk*, xxxvi., 3., p. 497, 1897.

Cystoscopy is much more difficult in women than in men, owing to the displacement of the bladder floor and with it the ureteral orifices. Winter uses Nitze's cystoscope, the instrument being 21 cm. long and 6.5 mm. thick, with a gently curved beak.

Winter describes its use in vesical catarrh, foreign bodies and fistula, and points out its value in diseases of the pelvis, of the kidney, and of the kidneys themselves.

The results of cystoscopy are of great value to the gynæcologists.

Uterine displacements and those of anterior vaginal wall affect the bladder very much; most striking is the change effected in the shape of the bladder by prolapse, especially cystocele. Very similar are the changes in the bladder form from pregnancy, Winter always found the large and small vessels on the floor of the bladder very distended and often the ureteral swellings were thickened during pregnancy.

Other cystoscopic views are observed when the bladder wall shares in some diseases by extension from a neighbouring part, as in exudations, pyo-salpinx or carcinoma.

The catheterisation of the ureters in women is required to judge the condition of the kidneys, if the observation of the urine coming from the ureteral aperture gives no clue, and especially if microscopic investigation of the urine is necessary for specific organisms, as for tubercle bacillus.

By sounding the ureters their openness is made out and the cause of any obstruction, as stone, discovered.

For the diagnosis of ligation or injury of the ureters during operation, catheterisation of the ureters is very important; and still more is it of value in avoiding these accidents.

F. E.

TREATMENT OF ACUTE SALPINGITIS. By WILLIAM P. CARR, M.D. (Washington).

Thorough systematic treatment of acute salpingitis in the early stages will result in resolution in a large majority of cases. Failing in this, no attempt should be made to perform a radical operation during the acute stage, over which the patient should be tided by palliative measures, and then if necessary, a radical operation may be done while the patient is in a chronic condition without septic fever.

The treatment of acute salpingitis is by :—

(1) Absolute rest. (2) Good nursing. (3) The administration of nourishing and easily digestible food; also of digestive stimulants, as hydrochloric acid, pepsin and strychnia. The bowels must be kept well moved and the skin clean. (4) Local treatment *per vaginam*. Thorough uterine drainage should be at once established and maintained, preferably by the outer bridge drainage tube. Curetting with a blunt curette may be advisable in cases of abundant or offensive discharge, or if the uterus contain retained placental tissue. Hot vaginal douches are effective in relieving pain. (5) Hot fomentations or turpentine stupes to the abdomen.

If the inflammation increase and pus is suspected, it should be punctured and drained from the vagina simply as a palliative measure. Only if it is absolutely necessary to save life should a radical operation be done during the acute stage.

FURTHER EXPERIENCE WITH VAGINAL FIXATION OF THE ROUND LIGAMENTS FOR BACKWARD DISPLACEMENTS OF THE UTERUS, INCLUDING A TABULATED REPORT OF FIFTEEN CASES. By HIRAM N. VINEBERG, M.D. (New York). *The American Journal of Obstetrics and Diseases of Women and Children*, for July, 1897.

Dr. Vineberg has made a careful analysis of the cases of dystocia occurring after ventral and vagino fixation of the uterus. In the former dystocia was met with in those cases only in which the Leopold-Czerny method had been employed. The cause was a too firm and extensive union of the fundus and anterior wall of the uterus with the abdominal wall. No trouble during either gestation or parturition had been met with when Olshausen's method had been followed. In the latter, in cases of vagino-fixation there was a similar condition of affairs. The dystocia was due to too firm union of the uterus with the vaginal wall. The idea then occurred to Dr. Vineberg of adopting Olshausen's method to cases of vagino-fixation—that is, of making use of the round ligaments and adjacent broad liga-

ments, rather than the uterine wall itself. The anterior wall and fundus of the uterus would then be entirely free to enlarge in the event of pregnancy. There would be no holding down of the fundus too firmly to the anterior vaginal wall. His first operation, according to this method, was done on February 4, 1896, and was mentioned in a paper read before the obstetric section of the New York Academy of Medicine on February 27, 1896. The *technique* of the operation is as follows:—The patient is prepared as if for vaginal hysterectomy. The cervix is drawn by volsellæ downward and outward to the vulva. Another volsella catches the anterior vaginal wall near the urethral opening and is held upward. In this manner the anterior vaginal wall is put upon the stretch. A longitudinal incision is now made extending from the mound just behind the urethral meatus to the vaginal attachment of the cervix. The two flaps thus formed are separated from the underlying bladder. They should be separated freely and then the utero vesical pouch of peritoneum is opened. The opening between the bladder and uterus should be dilated as much as possible. The bladder is held out of the way by an anterior vaginal retractor. The anterior wall of the uterus is exposed and a silk traction suture should be passed, by which the uterus can be pulled down into the incision. If the adnexa must be examined it can be delivered by hooking two fingers over the fundus and drawing it forwards. In cases where it need not be delivered, where visual inspection of the adnexa is unnecessary, the two fingers are hooked behind one horn of the uterus and the corresponding tube and round ligament are drawn well into the incision. A suture of silkworm gut is carried behind the round ligament about three or four centimetres from its insertion into the uterus. It is passed from above down and is made to catch a portion of the tissue immediately beneath the ligament. A second one may be passed nearer to the uterus. The same is done on the opposite side. These round ligament sutures on each side are then carried through the vaginal flap, at a point corresponding to the lateral sulcus, as near the pubic arch as possible. They are tied loosely while the uterus is held forward by the traction suture. The peritoneum is closed by continuous catgut suture and the vaginal flaps are brought together, previous to which the traction suture has been removed. It may be necessary in some cases to apply an additional uterine fixation suture—which Dr. Vineberg does not think could bring about an extensive and firm union of the fundus with the vagina, especially when it is applied midway between the os internum and the fundus. In 9 of his 15 cases conservative operations on the adnexa were performed. Of the 15, 7 were perfectly cured, 6 were very much improved, 1 was slightly improved, and 1

was not improved. These results we consider most satisfactory. Pregnancy has followed in two of the cases and in both of them it would have been impossible for it to have run a more normal course.

The after treatment of the operation is simple. She is kept in bed for twelve to fourteen days. The fixation sutures are removed in three or four weeks. In none of the cases was a pessary worn afterwards.

J. F. J.

A CONSIDERATION OF SIXTY CASES OF VAGINAL FIXATION OF THE UTERUS. By HOHL. *Archiv. für Gynäkologie*, 1897.

We cannot go into his cases, but will briefly submit the results of his experience in the following conclusions:—

Total extirpation cannot compete with other methods so far as our latest results go. We have certainly seen very many relapses of late.

We cannot but come to the following modifications of the present indications for ventro-fixation and vaginal fixation:—

(1) Only those cases of retroflexion and prolapse should be treated operatively which cannot be remedied by pessary treatment and where the symptoms are not removed by other treatment.

(2) Of the case to be operated upon vaginal fixation is recommended in (a) fixed or mobile retroflexion which cannot be cured by other treatment and which is combined with inflammatory disease of the appendages or with small tumours of these; (b) commencing prolapse and descent of medium extent, where permanent cure by the customary means is prevented by the retroflexion remaining, and in which the uterine displacement causes further troubles. Here vaginal fixation and operations for prolapse are combined.

(3) With ventro-fixation are treated: (a) those retroflexions which are complicated with large tumours of the adnexa requiring abdominal section; (b) severe prolapse. Here prolapse operations are combined with ventro-fixation.

Finally, the author has no knowledge of the Alexander Adams' operation and cannot, therefore, compare it with other methods, but believes it has a great field of service.

F. E.

THE CONSERVATIVE TREATMENT OF THE MYOMATOUS UTERUS. By HUNTER ROBB, M.D., Professor of Gynæcology, Western Reserve University, &c. *The American Journal of Obstetrics and Diseases of Women and Children*, for September, 1897. (Read before the North Central Ohio Medical Society, on June 25, 1897.)

The author says that the removal of a myomatous growth

of the uterus may not inaptly be compared to a Cæsarean section, although in the former case the cavity of the uterus is not always opened. In some of the large myomata the conservative operation of myomectomy may be very dangerous, because of the length of time the operation takes, and because of the liability of septic infection. Myomectomy is the simplest of the radical operations for the extirpation of these tumours, and is especially indicated for pedunculated and for certain sessile and interstitial growths of the uterus and those of the broad ligament.

Several isolated tumours may be dealt with in this way provided there is rigid observance of asepsis, and the ligatures and sutures are applied in such a way that hæmorrhage is fully controlled.

In the case of pedunculated myomata the pedicle is dropped and the abdomen closed. In a sessile myoma with a broad base enough tissue must be left to provide abundant flaps. If the tumour is large and the vessels to be cut are of large calibre, a provisional rubber ligature should be tied round the lower part of the uterus.

In interstitial myomata we get tumours varying in size, and they are usually encapsulated in a mass of hypertrophied tissue. The incision must be made through the uterine tissue over the myoma, which should be seized in vulsellum forceps and shelled out of its bed while the hæmorrhage is controlled by a rubber ligature tied round the lower part of the uterus. The sutures must be carried down through the tissues from one side of the incision to the other. Certain of the submucous myomata may be removed through the vagina, but if large they must be removed through the abdomen by A. Martin's method, the steps of which are as follows:—(1) The vagina and uterine cavity are disinfected and packed with gauze; (2) the abdomen is opened; (3) the uterus is lifted out and laid on a gauze napkin; (4) a rubber ligature is passed round the uterus close to the cervix to control hæmorrhage; (5) the uterine cavity is opened, the gauze removed and the tumour is shelled out; (6) the uterine wound is brought together by sutures and the uterus is returned into the abdominal cavity; (7) the abdominal incision is closed. If infected material has been carefully excluded, the abdominal cavity will require no cleansing. By replacing the uterus in a position of marked anteflexion, the intestines are prevented from coming in contact with the uterine wound.

THE ADVANTAGES OF VAGINO-ABDOMINAL SECTION. By THOMAS H. HAWKINS, M.D., Professor of Gynæcology, Gross Medical College, Denver, &c., &c. (Read at the American Medical Association, Philadelphia.)

The author first points out how often in cases of operation

for the removal of abscessed tubes and ovaries, he has had to resort to drainage, and in many instances to quite extensive packing with iodoform or sterilised gauze. As a result of this he has had considerable difficulty with fistulous openings, and in 12 per cent. of the cases where the gauze packing had been used, ventral hernia followed. It is important to avoid such sequelæ, and during the last two years the author has, in every instance when it seems likely that drainage or gauze packing will be required, preceded the abdominal with a vaginal section. By this procedure he has avoided fistulous openings and reduced the danger of ventral hernia to a minimum. After curetting the uterus and packing the cervical canal with iodoform gauze, he opens the pouch of Douglas and explores the pelvic contents, breaking down adhesions and severing as far as practicable all the false attachments of the ovaries and tubes. In cases where simply large abscessed tubes or ovaries are found, or a hydrosalpinx, or a small ovarian cyst, this is evacuated and the pelvic cavity washed out thoroughly and packed with gauze. If the lesions are more extensive the abdomen is opened, and owing to the previous vaginal performance the uterus and appendages are more easily freed from adhesions and brought into view. The diseased appendages are removed, the pelvic cavity dried and the abdomen closed. Out of 35 cases operated upon by the author by this combined method, the temperature in 34 of them never rose above 99.5°. The gauze is removed on the third day and the vagina flushed with warm sterilised water and loosely filled with aseptic gauze.

A special point in favour of this combined method is that when the conditions, as determined through the vaginal incision, permit, we may forego abdominal section and thus lessen the risk. The author, however, from the cases reported, appears in cases of ovarian cyst, hydrosalpinx, pyosalpinx and tubal pregnancy, to have simply opened them, evacuated their contents and packed the cavity with gauze, not removing the ovary or tube, but leaving them behind. His patients treated in this way made good recoveries.

J. F. J.

VAGINAL OVARIOTOMY. By SCHAUTA (Vienna). *Wien. med. Wochensch.*, xlvii., 1, 1896.

Schauta has removed twenty-three ovarian cysts *per vaginam*, with one death on the twenty-fifth day after operation (this cyst was ruptured previous to operation). The cysts were larger than a man's head. Only movable cysts, having no connection with the parietes or the bowels and not being intra-ligamentary, are suited for the vaginal operation, hence a very careful detailed diagnosis is required. With small cysts the adhesions

are generally not difficult to make out by bimanual examination, or by examination under anæsthesia, or by elevation of the pelvis, but it is difficult when the cyst is larger. The possibility of pushing the hand between the pubic arch and the lower pole of the tumour during bimanual examination is worthy of notice, likewise the displacement of the upper boundary of the cyst in deep breathing (if there is no displacement there exist adhesions), and the position of the uterus in front of the swelling may be a sign of adhesion of the tumour to the pelvic organs. The vaginal operation is not indicated in large malignant tumours which cannot be removed unless divided up. The *technique* of the operation is as follows:—After separation of the bladder from the cervix and opening up the anterior fold of peritoneum, the cyst is fixed in the opening by pressure from above. After tapping and emptying a cyst by a trocar the cyst wall is seized and the cyst and its stump drawn into the vagina where the vagina is tied and returned, then the peritoneum and the vaginal wall are sutured. With multilocular cysts one cavity is emptied after the other, if necessary the hand being used. With broad ligament cysts the cyst is cut straight into and the large vessels running over it bound and the cyst emptied and shelled out. The precaution is necessary when dealing with dermoids, to surround the opening well with compresses so as to prevent the entrance of the contents into the abdomen. In cases where the peritoneum becomes soiled with the contents of a cyst, Schauta drains with iodoform gauze. The patient gets up on the ninth or tenth day.

F. E.

POST-OPERATIVE HÆMORRHAGE FROM SLIPPING OF THE LIGATURE AFTER REMOVAL OF DISEASED TUBES AND OVARIES, AND HOW TO PREVENT IT. By A. LAPHORN SMITH, M.D., M.R.C.S.Eng., Gynæcologist to the Montreal Dispensary and to the Western Hospital, &c., &c.

Dr. Lapthorn Smith points out clearly how, after even a simple removal of the appendages, the surgeon may in a few hours be faced with the appalling accident of hæmorrhage from slipping of the ligature. He finds his patient, whom he left only a short time before with a good slow pulse, in a very different condition. She is collapsed, her face is pale and anxious, a cold, clammy perspiration bathes her brow, the extremities are cold and the pulse is fluttering at the rate of 140 or even more. Now, at once, he has to decide what to do, and first of all he must be certain of his diagnosis. When shock is present it is always and only while the patient is on the table or soon after, and if the ordinary means of counteracting the shock have been employed, her condition will steadily improve.

With sudden internal hæmorrhage the conditions are very different; the pulse, from being fairly slow, will suddenly bound upwards, and all the symptoms of severe hæmorrhage rapidly ensue. Whether there will be any rise of temperature depends on the rapidity with which the hæmorrhage has taken place. If the hæmorrhage takes place, comparatively speaking, slowly, say from a small vessel, the peritoneum endeavours to will it off from the general peritoneal cavity by throwing round it a layer of organised lymph, and this local peritonitis causes a rise of temperature. If the hæmorrhage is rapid, there is no time nor vitality for this inflammatory process to take place and there is a fall of temperature. Knowing, then, how to recognise secondary abdominal hæmorrhage, the surgeon must have the courage to act upon that knowledge promptly. But even better than this is the prevention of such slipping of the ligature, and Dr. Smith has adopted the procedure described below, which he firmly believes will prevent any possibility of severe hæmorrhage from slipping of the ligature. His method is as follows:—"To spend one extra minute of time in throwing a medium silk ligature round the ovarian artery, as it can be easily felt running along the upper border of the broad ligament about an inch from the pelvic wall, before even proceeding to ligate the pedicle composed of the ovary and the tube." "It requires but a moment to pass a curved needle, with the loop threaded with medium-sized silk, around the ovarian artery, and to tie it tight." Then tie the pedicle with double threads in the usual way, and the ends of the threads tied round the uterine end of the tube "are passed round under the knot of the ovarian pedicle and securely tied again *en masse*."

J. F. J.

CONSIDERATIONS OF THE CASTS OF EIGHTY UTERINE CAVITIES, BOTH NORMAL AND PATHOLOGICAL. By Dr. MANCLAIRE. *Ann. de Gynécol.*, xlvii., p. 208, March, 1897.

Manclaire has continued the work begun by Guyon in 1858, and in eighty cases has taken wax casts of the cavities of uteri preserved in chloral. The thickness of the uterine wall was extremely variable, and so was the shape of the uterine cavity, especially at the height of the uterine horns, which sometimes arose at a right angle, other times at an obtuse angle, but never at an acute angle. The horns were often asymmetrical, at times being broad, at other times pointed. The axis of the uterine cavity was not always a continuation of the elongation of the cervix and the isthmus. Manclaire was unable to inject the tubes with wax from the uterine cavity.

In displacements of the uterus the uterine cavity was always small in all dimensions. Five polypi were found at the openings

of the fallopian tubes; the uterine cavity was dilated. This was also the case with metritis, and in a high degree with interstitial myomata. In two cases of tubo-ovarian cyst the uterus was quite small and infantile. Eighteen cases dilated with laminaria tents showed that the uterine cornua were not more accessible through the dilatation, and that this forms the difficulty in complete curetting, especially since, if pointed instruments be used, it is here that the thinned uterine wall is most easily perforated.

The direction of the origin of the uterine horns explains the difficulty of catheterising the tubes and of endoscopy in the uterine cavity.

F. E.

SCLEROSIS OF THE UTERINE ARTERIES AND THE CLIMACTERIC HÆMORRHAGES. By Dr. ERNST ALEC REINICKE (Dresden). *Arch. f. Gynäkol.*, liii., 2, p. 340, 1897.

In the summer of 1896 4 total extirpations were performed in the Royal Hospital for Women in Dresden (Leopold) for climacteric hæmorrhage. In 2 cases the operation was done because the microscopic examination of the pieces of tissue removed by curetting did not fully exclude the presence of malignant new growth in the body of the uterus. The anatomical and histological examination showed in every case a condition of the uterine arteries which explained the very free uterine hæmorrhage. The vessels projected more or less above the surface of the section, they were very tortuous and had firm walls and gaping lumina. The intima practically had no share in this thickening. The media was greatly, and the adventitia moderately, thickened. It was not a simple atheroma but rather a sclerosis, and hyper-myotrophia of the arterial tube, for which, as a rule, there is no inflammatory basis. This change in the uterine arteries does not of necessity lead to menorrhagia. It was found very marked in a uterus with cervical carcinoma, without any bleeding having taken place. (This patient had had eight children, and the four first had four to twelve children, a state of things which appears not without meaning as regards the arterial condition.) For the climacteric menorrhagia two influences are necessary besides the disease of the vessels. The sclerosis must come on gradually, so that the vessel lumen may not be quickly stenosed or destroyed, and secondly, there must exist a strong menstrual tendency in the pelvic organs.

The diagnosis of arterial disease is only to be made in the living with probability. Treatment with ergot often appears to make the bleeding worse. Curetting is without result, since the causes of the bleeding are not in the endometrium, but deeper. Severe dilatation of the uterus by laminaria tents and swabbing

out with liq. ferri. perchlor. may have effect. Ultimately, unless a patient is well off, total extirpation is indicated.

F. E.

OBSTETRICAL.

ECTOPIC GESTATION, A CONSIDERATION OF THE INTRA-LIGAMENTOUS RETRO-PERITONEAL FORM. By L. H. DUNNING M.D. (Indianapolis).

The author believes that there is a distinct form of ectopic pregnancy which "has not as yet received its due recognition." It is met with in the last months of gestation and differs in its anatomical and peritoneal relations from those generally described as belonging to the subperitoneo-pelvic and subperitoneo-abdominal varieties. The dominant teaching of Berry Hart's case (1883) is that as the ovum develops it lifts the peritoneum off the posterior surface of the uterus, a portion of the anterior surface of the uterus, and away from the lateral and anterior walls of the abdomen, so that the foetal sac is insinuated between the peritoneum and these organs and tissues. The author believes that this is true only in very exceptional cases. Out of abstracts of the histories of fifty-two cases of advanced ectopic pregnancy, in but two of them did the uterus or placenta bear such an anatomical relation to the peritoneum and abdominal walls. The form which he believes to be frequent enough and distinct enough to entitle it to a separate classification is "the intra-ligamentous retro-peritoneal." His description of this form is included in the history of a case in which the foetus and sac were removed two months after a missed labour at full term. The history briefly is that the patient menstruated February 1, 1896; near the end of March she was very ill with pains, hæmorrhage, and the passage of membranes. She was supposed to have aborted. After this, however, continuous amenorrhœa till November, with gradual enlargement of the abdomen and all the signs of pregnancy. At the end of November she had pains for a few hours, and she and her physician thought that labour was coming on. They soon ceased, however, and did not recur, and on January 16, 1897, she was sent to Dr. Dunning for operation. The conditions found upon examination were—abdomen as large as at full term pregnancy, but slightly more prominent upon the left side; no fluctuation or ballottement, no souffle or heart sounds; tumour slightly movable, uterus moved with the tumour. Depth of uterine cavity four inches; outlines of foetus felt on palpation; extra-uterine pregnancy was diagnosed. At the operation, which was done on January 18, the tumour appeared to be everywhere covered by peritoneum. "Behind and above were numerous

adhesions of intestines and omentum. The hand could not be passed behind the tumour further than the promontory of the sacrum. At this level the posterior parietal layer of the peritoneum was reflected upward over the posterior surface of the tumour. In front of the tumour, low down and to the right side, could be seen the uterus lying in close contact with it. On grasping the uterus it was found adherent to, but not incorporated in, the tumour. The anterior surface of the tumour was continuous with the anterior surface of the left broad ligament. The walls of the sac were incised and about a quart of a dark coloured fluid poured into a receptacle. There was now no difficulty in palpating the foetus." "Clearly," says the author, "we were dealing with extra-uterine pregnancy of the intra-ligamentous, retro-peritoneal type." It was dealt with as one would with an intra-ligamentous cyst. When the tumour had been removed there was an extensive raw surface upon the posterior and lateral walls of the pelvis, which were covered by broad peritoneal flaps which had covered the foetal sac in front and behind. Because of a similar raw bleeding surface at the back of the uterus it was removed. The abdomen was closed without drainage and the patient made a good recovery.

"The chief characteristic of this form of ectopic pregnancy at term is that the ovum with its envelopes projects free into the abdominal cavity, the abdominal portion being entirely enveloped by a peritoneal covering. This peritoneal covering is derived from the folds of the broad ligament and portions of the peritoneum from the following structures and regions, viz.:—the Fallopian tube, one lateral pelvic wall, the posterior surface of the uterus, the *cul-de-sac* and the posterior parietal peritoneum." No part of the ovum is found in front of the anterior parietal layer of the peritoneum. In operating it is important to completely enucleate the foetal sac from its peritoneal coverings as in treating an intra-ligamentous cyst.

RETRO-PERITONEAL ECTOPIC PREGNANCY AT FULL TERM. By J. WESLEY BOVÉE, M.D., Gynæcologist to Providence Hospital and to Columbia Hospital for Women, &c. (Read before the Washington Obstetrical and Gynæcological Society, January 15, 1897.)

The author reports fully a case of retro-peritoneal ectopic pregnancy at full term operated upon by him on December 2, 1896. The patient was "a small feeble woman, having a pale, haggard appearance, with blanched mucous membrane, much emaciated, and suffering much pain." The sac was a broad ligament sac, which had dissected its way up behind the posterior wall of the peritoneum; it was adherent to uterus, bladder and rectum. With careful work and perseverance it

was removed, and the smooth, clean cavity left after its removal was drained by a glass drainage tube. Although she rallied well from the shock, she died on the thirteenth day, from sepsis. The *autopsy* showed freedom of the general peritoneal cavity from infection, but there were several pus pockets posterior to the uterus and limited by adhesions. The drainage tube had been removed on the second morning after the operation, as the drainage was very slight and clear. The author says that the drainage was altogether imperfect. Had drainage through Douglas' pouch been employed, or even had the supra-pubic drainage been continued for a longer time, the result might have been different. He strongly advocates the use of drainage through the vagina in such cases.

The most important matter to consider in the operation for advanced ectopic pregnancy, is the management of the sac and placenta. If the fœtus is alive the danger from hæmorrhage is greater than when it is dead, and therefore more care is necessary. The sac and placenta should be removed when possible, but cases do occur where, from the site of attachment of the placenta, the blood supply could not be easily controlled were separation attempted. The convalescence of cases in which the placenta is left for spontaneous expulsion is very slow and often complicated by sepsis. After death of the fœtus the removal of the sac and placenta is less dangerous, and since tolerance of the presence of the fœtus and its membrane is precarious, they should be removed without delay.

THE USE OF THE CURETTE IN PUERPERAL AND CHRONIC ENDOMETRITIS. By REUBEN PETERSEN, M.D., of Chicago.
Read on April 23, 1897, before the section of Obstetrics and Gynæcology, New York Academy of Medicine.

(1) *In puerperal endometritis.*—Reference is made to the investigations of Bumm on puerperal endometritis, in which it is shown that there are two primary forms, putrid and septic. In the putrid form the decidual changes are produced by saprophytic micro-organisms, but no development of septic germs occurs. The important histological fact in connection with these cases is that there is found outside the necrosed decidua a zone of cellular infiltration, which is a result of the reaction of the organism, and is imposed between the dead and living tissues and acts as a barrier to the entrance of germs. In the septic form there is a development of septic germs upon the decidua. This form may occur with or without general infection, in the latter case it being prevented by a granulation layer outside the endometrium. In abortion before the end of the third month of pregnancy the blood and lymph channels of the uterus are relatively small and there is less danger of the entrance of

septic germs into the deeper layers of the uterus from the use of the curette. This explains the good results following the use of the sharp curette in cases of incomplete early abortion. For the last few years it has been Dr. Petersen's custom, in cases of apparently inevitable abortion, to anæsthetise the woman, dilate the uterus and empty it completely with the sharp curette. Then he irrigates the uterus with sterilised water, and then, if necessary, he inserts a light gauze drain. He strongly disapproves of tightly packing with gauze, because it prevents rather than encourages drainage. He believes that operating thus early will prevent the penetration of the septic germs into the deeper uterine structures. If sepsis is present the removal of the granulation zone will do no harm, because at this stage the vessels and lymphatics are both small. In cases of endometritis occurring subsequent to the formation of the placenta, we have to consider two classes of cases, one due to decomposition of retained secundines, the other to septic germs attacking the decidua.

In the first class there are sudden high fever, rapid pulse, and offensive lochia. The necrotic tissues must be removed by a large blunt curette. The protecting granulating zone must not be scraped away, so that the uterus may be in the best condition to withstand the possible invasion of septic micro-organisms. In the second class it is only where the disease is localised that it is amenable to treatment by the curette. Clinically there is slow fever, with marked remissions and exacerbations. Here, too, the blunt curette, and not the sharp one, must be used in order to avoid fresh absorption of septic micro-organisms. Many of these cases, however, are not relieved by the curette; there is no protecting granulation zone, and the virulent septic germs are directly absorbed by the lymphatics, and before any curettage is thought of, there is general septic infection.

(2) *In chronic endometritis.*—In these cases Dr. Petersen advocates the use of the sharp curette. Small-sized instruments are the best, since they can be inserted into the cornua of the uterus and between the rugæ. In gonorrhœal endometritis it is especially important that curettage should be followed by caustic applications. In some cases, where the germs have not penetrated deeply into the tissues, this will suffice, and the disease will not recur. Drainage is all important and should not be prevented by tight gauze packing.

J. F. J.

[Owing to pressure of space some further Abstracts and Notes on Medical Preparations, &c., must stand over till next Number.—Ed.]

NOTES AND NEWS.

THE annual dinner of the Society was held on Wednesday, January 26, 1898, at the Café Monico. Mr. MAYO ROBSON (*the outgoing President*) occupied the chair. Letters containing expressions of regret at not being able to attend were unfortunately received at the last moment from several distinguished guests as well as Fellows, nevertheless some seventy sat down and afforded good testimony to the flourishing condition of the Society.

Among the guests we noted Sir Henry Colville, K.C.M.G. ; The Master of the Society of Apothecaries ; Mr. Langton (*President* of the Clinical Society) ; Dr. Cullingworth (*President* of the Obstetrical Society) ; Dr. Sansom (*President* of the Medical Society) ; Dr. Dudley Buxton (*President* of the Society of Anæsthetists, as well as Fellow of the British Gynæcological Society) ; Dr. Milsom (*President* of the Harveian Society) ; and Mr. Alfred Cooper. While the Fellows list included Dr. Macnaughton-Jones (*President Elect*) ; Dr. Routh ; Dr. Bantock ; Dr. Greig ; Mr. Jessett ; and Dr. Godson (*Past Presidents*) ; Dr. Armstrong ; Dr. Spanton ; Dr. Travers ; Dr. Mansell Moullin (*Treasurer*) ; Dr. Schacht (*Editor of the Journal*) ; Dr. Snow ; Dr. Heywood Smith ; Dr. R. T. Smith ; Mr. Hodgson ; Dr. Skene Keith ; Dr. Colenso ; Dr. Allen ; Dr. Roe Carter ; Dr. Downes ; Dr. Purcell ; Dr. Bridges ; Dr. Sliman ; Dr. Hebert ; Dr. Fitzgerald ; Dr. Galloway ; Dr. Bourke ; Dr. Giffard ; Dr. Leslie, and others, besides the two Secretaries, Dr. Geo. Keith and Dr. A. E. Giles.

The former experiences of the capacities of the Café Monico were thoroughly maintained. The dinner was

excellently served, and accompanied with some charming music by the French Orchestra, under the able conductorship of M. Paul Bose. Mr. Templar Saxe most kindly added the desired vocal element in his own well known style.

The CHAIRMAN in due course rose to propose the toast of "Her Majesty the Queen and the rest of the Royal Family." He said the first toast he had the honour to propose was one which, in an assembly like that, needed little effort on his part to recommend it. As a nation they might well feel proud of their noble and high-minded Queen, who does all in her power to promote the happiness and welfare of her subjects. They had lately had a splendid example of the regal generosity of Her Majesty, in her stately gifts to the nation of Kensington Palace, the old Palace and Queen's Cottage at Kew, and the Ranger's Lodge at Greenwich, all of which are endeared to the people by their old associations. He said it was a good sign that they were becoming more conscious, as they were becoming more careful, of their ancient possessions, and therefore such gifts were more fully appreciated. As a body they might feel especially proud in the knowledge that not only Her Majesty, but the Prince of Wales and the rest of the Royal Family, showed by their conduct towards the medical profession, by their promotion of noble schemes which tended to the welfare of the medical charities, by the honours conferred from time to time on members of the profession, and by the confidence reposed in their medical advisers, that they fully recognised medicine as playing a not inconsiderable part in the higher civilisation of the nineteenth century. They had representatives here from all divisions of the United Kingdom, and although they might be at variance as to whether their names should be Britons, Englishmen, Scotchmen, Welshmen, or Irishmen, yet they were certain to be as one in drinking the health of Her Majesty and the rest of the Royal Family. He then gave them the toast.

Dr. GODSON, in proposing the toast of "The Sister Societies," said that the family had at least doubled in num-

bers since 1880. It had increased in some instances by twin births. There were two Laryngological and two Dermatological Societies, and their own Society was sometimes considered a twin with the Obstetrical. The President of that Society was with them as their own guest last year as well as this, which showed the good feeling which existed between him and themselves. Might the same spirit be entertained by his successors in the chair. The first-born of the sisters was represented to-night by its President, Dr. Sansom. The Medical Society of London was 125 years of age; the Harveian, about half its age, was represented by its President, Dr. Milsom; and the Clinical Society, about half as old as the Harveian, by Mr. Langton, its President. One of the baby sisters, the Society of Anæsthetists, was with them in the person of its President, one of their own Fellows, Dr. Dudley Buxton, though their guest on that special occasion. There was a still younger Society, the Röntgen, which might be called the infant in arms, its birth having taken place last year. This Society was destined to shed a new light on their powers of diagnosis. Dr. Godson asked the Fellows to extend to all the Presidents a most cordial welcome, and to wish that their Societies might continue to prosper and flourish, root and branch.

The PRESIDENT of the Obstetrical Society (Dr. Cullingworth) replied for the Sister Societies. As representing the Obstetrical Society, which had been called by Dr. Godson a sort of twin Society, he could not help feeling that the difference between Obstetrics and Gynæcology was becoming less and less every year. In the matter of subjects discussed at the Obstetrical Society, he observed that in the last year they had been equally divided between Obstetrics and Gynæcology. In calling themselves Gynæcologists they had taken upon themselves a large task, and he thought it behoved them to encourage breadth of view. He had always considered the Medical Society a model Society, because it discussed such varied subjects, and exhibited a corresponding tendency not only to keep thoroughly abreast of the

times, but to treat them from a broad standpoint. Such Societies were in themselves a liberal education. He had much pleasure in acknowledging the way in which the toast had been received.

The PRESIDENT of the Clinical Society (Mr. Langton) considered it a high honour to be present, and to propose the toast of the evening, "The British Gynæcological Society." He could not but think that the Chairman should have proposed the toast himself. He congratulated the Society very heartily on the position it had attained. It had been brought into existence some fourteen years ago, and it had had a very successful career. It now filled a definite niche (no small one) and it transmitted definite knowledge. It encouraged the work of young men, a most important function of such Societies, and it brought together at meetings and on occasions such as the present all ages, associating the present generation both with those that were older and with the younger men who will in future days come to the front. He wished every success to the British Gynæcological Society.

In response to this toast the CHAIRMAN said that his friend and colleague on the Council of the Royal College of Surgeons, Mr. Langton, had been so good as to speak in eulogistic terms of the Society over which he had had the honour to preside during the past twelve months, and he was proud of having had the privilege of being the mouth-piece of the Society in returning thanks for the toast. He said their Society was only fourteen years old, and might therefore be considered in its adolescence except in dining, yet he ventured to assert that the work done during its vigorous infancy and in its childhood and youth, would bear comparison, without suffering, with that performed by any of the other great Medical Societies. At its foundation in 1884, it was felt that there was need for a Society where Gynæcological subjects, especially Surgical Gynæcology, would be treated with fuller scope, and the Gynæcological Society was then founded for the special purpose of dis-

cussing diseases of women outside the purely Obstetric range. It had, he thought there could be no gainsaying, done everything to justify its formation, and probably more than any other faction had tended to banish the ignorance which at one time prevailed among the so-called pure physicians and surgeons as to the importance of Gynæcology. The Society started with 266 members, but at the present time had a roll call of many hundreds, who hailed from all parts of the world. To show that the Society was in a flourishing condition he needed only to refer them to reports of their meetings in their excellent Quarterly Journal edited by Dr. Schacht, or to the fact that at their last meeting there were no less than thirty names to nominate, among others Dr. Doyen, the eminent French Surgeon. The Society had exercised an important influence over the career of many of its Fellows, not only over those attending the meetings, but over those living at a distance, who were able to refer to the excellent reports and discussions furnished by the Journal. As their revered Honorary President had said, "The Medical Societies ranked next to the Universities and the Licensing Corporations," but he should say that after the portals were passed the Societies held a much higher position, since their interest in them continued throughout life. They were the schools of the post-graduates. He said that through the Societies medical men kept pace with the ever increasing knowledge of the day, and this way knowledge was promoted and diffused. Moreover the Societies opened the way to the recognition of individual work and merit, enabling those favoured by fortune to challenge and win distinction. Their Society had had its criticisms and its enemies, what successful institution had not? "A man," said Oliver Wendell Holmes, "whose opinions are never attacked is beneath contempt," and the same must apply to a Society. He thanked them for the kind manner in which they had received the toast of the British Gynæcological Society.

Dr. ROUTH next proposed the health of "Our Guests."

He expressed the pleasure they all felt in toasting gentlemen who had so kindly joined them that night, and who were so numerous. He was proud to know that many of these gentlemen had already distinguished themselves by their writings, and earned more than European fame. They, the Fathers of the Society, had thoroughly enjoyed their presence, not merely because they had partaken of a good dinner with them, but because they were most agreeable and talented gentlemen. This Society was now sixteen years old. It had reached puberty, and doubtless the Fellows were conscious of some very pleasant and new sensations. It was called the Gynæcological Society, which meant the "science of women." Now, he hoped what he was about to add would not disturb their equanimity. The Fellows of this Society had much enjoyed the society of their guests, but would it not add much to the beauty and enjoyment of the scene if ladies were also to be found among our guests? How lovely to gaze on beauty, and to hear the musical sounds of their gentler voices. He hoped that at an age when the whole system of medicine was about to change, by the introduction of antitoxins as new and refined remedies, calling to remembrance *similia similibus curantur*, Hahnemann's doctrine, but without its infinitesimal absurdities, that it would be very delightful to see among our guests some specimens of humanity, bearing considerable similarity to ourselves, but infinitely more refined and beautiful, and which would add considerably to the beauty of the scene as well as their pleasures. He hoped this suggestion would be taken to heart by the Fellows while toasting their guests very heartily on this occasion.

Dr. SANSOM (President of the Medical Society), while thanking Dr. Routh and the Fellows for their kind reception of this toast, felt that his lot had fallen in pleasant places, for he was not only among pleasant men, but had listened to pleasing remarks about the Sister Societies. He felt, though, that he was in the predicament described by James R. Lowell, in which he should make his best speech on the

way home. As President of the Medical Society, he had listened to papers and discussions on many subjects, and some of the contributions were from Fellows of this Society. The developments in anæsthesia, obstetrics, surgery and physic tended to make each rely more on the other and be of more use to each other. The British Gynæcological Society had shown in its fourteen years of work honesty of purpose. It should continue to stand, as it did stand, firm, and so help to add to the sum of human knowledge.

Dr. MACNAUGHTON-JONES said that no toast could possibly have been assigned to him that could give him greater pleasure to propose than that which he now rose to ask the Fellows of the British Gynæcological Society to drink, viz., the health of their Chairman. Fortunately, it was one that required but few words on his part to insure a warm reception at their hands. They had pleasure in drinking his health as a distinguished provincial surgeon. Some of the brightest gains in surgery had come to them from the provinces, and that was true, not only of the great English centres, but also of the remainder of the United Kingdom. Intuitive surgery, brilliant surgery, philosophic surgery, and practical surgery, had found many illustrious exponents in the provincial towns of England, and he was a worthy representative of these same surgical traits. He said he (their Chairman) had been an intuitive, a brilliant, a philosophic, and a truly practical surgeon, and it was mete that he should be so; for he came from a school that had produced some of the most illustrious of British surgeons—such men as Prigden Teale, Wheelhouse, and Jessop. He said that the surgical school of Leeds was not surpassed by any. Gynæcology had had some of its most brilliant teachers from the provinces. He need only mention the names of Lawson Tait, the late Greig Smith, and their guest to-night, the President of the Obstetrical Society. It had always seemed to him that the growth and development of surgery in any country depended upon the principle of decentralisation, and the creation of

new centres of thought and learning throughout the provinces. Through this greater diffusion of knowledge they gained new impulses and new ideas, central monopoly was broken down, while London reaped the advantage of attracting to her schools and Societies the foremost and the ablest of the provincial workers. Not only did they welcome him in that chair as a distinguished provincial representative of Gynæcology, but also as a surgeon. It seemed to him that with the modern overgrowth of specialities, they were likely before very long to look upon a first-rate general surgeon as one of an extinct species. Not so far in the future might they expect to find a visitor to the museum of the College of Surgeons of England gazing at a mausoleum in which, Rameses-like, will be wrapped in his mummy cloth, preserved for the interest of future generations, the last example of a great English general surgeon. It had been well said by Mr. Jessett at a recent meeting of our Society, that "a pure specialist can never make a good general surgeon, but that there is nothing to prevent a good general surgeon from being a first-rate specialist." He knew the almost superhuman work that was demanded of a man who aimed at the standard of excellence he had hinted at, and which was expressed in the words, *Quid non tetigit quod non ornavit*, but he maintained that it could be reached as in their chairman's case, by labour and perseverance. He felt he need not refer to the able and tactful manner in which he had discharged his duties as President for the year, for that was far too well known to the Fellows to need any words of praise from him. Few provincial Presidents had equalled him in assiduity, none had surpassed him. They hoped he might long be spared as an honour to the school which he now adorned, as a distinguished representative of provincial surgery, and as a frequent visitor to their meetings, to add to the interest of their proceedings and to contribute to the value of their transactions.

The CHAIRMAN thanked the President most heartily for

the kind manner in which he had proposed his health, and thanked the gentlemen present for the kind way in which they had received the toast. He could not be vain enough to suppose that he deserved one half the praise which the President had showered on him and which the Fellows had endorsed, but he could say that during his occupation of the Presidential chair, he had done his best to faithfully carry out the duties of the office. He was thankful that his mantle had fallen on the shoulders of one who was not only an able gynæcologist, but a most distinguished member of the profession and an eloquent speaker. He felt sure that under his Presidency the Society would not only increase its members and its popularity, but that it would by the value of its contributions attain greater and greater fame.

Dr. BANTOCK in a few words proposed the health of the Secretaries. They all knew that their duties were most important—the working of such a Society entailed a considerable amount of labour on the Secretaries, and the success of such an annual dinner as the present to a large extent depended on their active co-operation and individual enterprise.

Dr. GEO. KEITH and Dr. A. E. GILES replied, thanking the Fellows for drinking their healths so warmly.

Mr. JESSETT thought everyone would feel that it would not be right to omit the toast of the "British Gynæcological Journal and its Editor." He considered the Journal to be a most valuable ingredient of the Society. It recorded the proceedings of the meetings, and so enabled those who could not be present to read those proceedings in detail. It further in its original articles and Summary of Gynæcology brought before the Fellows the work which was being done all over the world. To accomplish this a large amount of work devolved upon their Editor (Dr. Schacht) and those associated with him. He thought they should congratulate Dr. Schacht upon the continued excellence and position of the Journal, which he maintained was second to none.

Dr. SCHACHT in reply said that though quite unprepared for this toast he could not but be pleased at the flattering manner in which Mr. Jessett had proposed and the Fellows had received it. He was very glad that the Journal should hold such a position in the eyes of the Fellows, and he had every hope that its usefulness and efficiency would be further extended. He had received very courteous letters from several continental specialists, and he hoped to be able in the coming year to publish some interesting articles by acknowledged leaders in other countries. He felt much indebted to those Fellows who assisted him in his editorial duties, and he expressed the hope that others would be able to lend a helping hand.

The company then dispersed.

NEW BOOKS, &c., RECEIVED.

(Besides exchangeable Journals.)

- Die Organotherapie in der Gynakologie. Ludwig Kleinwächter.
- Personal Experiences in Laparotomy. Mary A. Dixon Jones, M.D., New York.
- A Hitherto undescribed Disease of the Ovary; Endothelioma changing to Angelioma and Hæmatoma. Mary A. Dixon Jones, M.D.
- Diseased Ova. Mary A. Dixon Jones, M.D.
- Laparotomy for Diseases of Women from 1879-1889. Mary A. Dixon Jones, M.D.
- Some points in the Anatomy, Pathology and Surgery of Intussusception. D'Arcy Power. The Rebman Publishing Co., 11, Adam Street, Strand.
- Obstetrique Comptes-Rendus. Publiés par M. Le Docteur Cordes, Secrétaire Générale. Georg & Co., Libraires de L'universal Genève.
- Gynécologie Comptes-Rendus. Publiés par M. Le Docteur Betrix, Secrétaire Général. Georg & Co., Libraires de L'university Genève. Vols. 1 et 2.
- Congenital Absence or Delayed Development of the Patella. E. Muirhead Little, F.R.C.S. Reprinted from the *Lancet*, September 25, 1897.
- Diseases of Women. Lewers. H. K. Lewis, 139, Gower Street, W.C., 1897.
- De L'Hystérie. Communication faite a la Société imperiale de médecine de Constantinople, le 3 Mai, 1895. Dr. M. Logothétis. Imprimerie A. Christidio, 19, Rue Voivodâ, Galata, 1897.
- Nature et Genesè des Aptes de Bedar, par le Dr. G. Alvarez, Madrid.
- The Earliest recorded Discovery of Thermal Springs. Prosser James, M.D., John Bale, Sons and Danielsson, Ltd.
- Another Hitherto undescribed Disease of the Ovaries. Anomalous Menstrual Bodies. Mary A. Dixon Jones, M.D., Brooklyn. Reprinted from the *New York Medical Journal*, May 10-17, 1890.
- Carcinoma of the Floor of the Pelvis. Mary A. Dixon Jones, M.D., Brooklyn. Reprinted from the *Medical Record*, March 11, 1893.
- Microscopical Studies in Pelvic Peritonitis. Mary A. Dixon Jones, M.D. Reprinted from the *Medical Record*, May 28, 1892.
- Criminal Abortion, its Evils and Sad Consequences. Mary A. Dixon Jones, Reprinted from the *Medical Record*, July 7, 1894.
- Sterility in Women, Causes, Treatment and Illustrative Cases. Mary A. Dixon Jones. Reprinted from the *Medical Record*, September 19, 1891.
- Diagnosis and some of the Clinical Aspects of Gyroma and Endothelioma of the Ovary. Mary A. Dixon Jones.
- Diseases of Women. Webster. Young J. Pentland, Edinburgh.

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FOUNDED 1884.

INCORPORATED 1885.

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 Pres., President.
 V.P., Vice-President.
 C., Council.
 Libr., Librarian.

Treas., Treasurer.
 Hon. Sec., Honorary Secretary.
 Hon. Loc. Sec., Honorary Local Secretary
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 L.F.F., Life Fellow.

Those marked with an asterisk () have not communicated their address.*

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 1885 HARVEY, ROBERT, M.D. (Calcutta)
 1885 HEGAR, A., M.D. (Freiburg i. B.)
 1885 KOEBERLE, F., M.D. (Strasbourg)
 1885 LAZAREWITCH, J., M.D. (St. Petersburg)
 1885 MARTIN, A., M.D., (Berlin)
 1885 PORRO, S., M.D., (Milan)
 1885 TARNIER, S., M.D. (Paris)
 1885 THOMAS T. GAILLARD, M.D. (New York)
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- 1896 ALLEN, HENRY MARCUS, F.R.C.P.Edin., M.R.C.S., 17, Palmeira Square, West Brighton.
- 1896 †ALLEN, WILLIAM HAMILTON, M.D.Dub., "Clodiagh," Stanmore, Middlesex.
- 1886 *ALLOWAY, T. JOHNSON, M.D., *Instructor in Gynæcology McGill University, Montreal.*
- 1898 APPLEBE, E. A., L.R.C.P.Edin., L.F.P.S.G., 1, Southgate Road, Winchester.
- 1885 †ARMSTRONG, WILLIAM, M.R.C.S.Eng., Thorncliffe, Hartington Road, Buxton. C. 1897-8.
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- 1897 ASTLES, JOHN W., M.B. and C.M.Edin., *Hon. Assistant Surgeon and Gynæcologist, Adelaide Hospital, Angus Street, Adelaide, South Australia.*
- 1898 BAGNELL, W. H., L.R.C.S.I., L.R.C.P.Ed., L.M., Offices de Sante Bordeaux, 4, Rue de Perpigna, Pau, France.
- 1889 BAGOT, WILLIAM S., M.D.Dab., L.R.C.S.I., *Gynæcologist to St. Luke's Hospital, Denver, Colo., Ex-Senior Assistant Physician Rotunda Hospital, Dublin, Stedman Building, Denver, Colo., U.S.A.*
- 1897 BAIN, WILLIAM, M.D.Durh., M.R.C.P.Lond., F.R.C.S.Ed., York Place, Harrogate.
- L. 1888 BAKER, CLARENCE ATTWOOD, M.D., 312, Congress Street, Portland, Maine, U.S.A.
- L. 1885 BAKER, WILLIAM HENRY, M.D., *Professor of Gynecology, Harvard University, Surgeon to the Free Hospital for Women, Boston, 22, Mount Vernon Street, Boston, Mass., U.S.A.*
- 1889 BALDY, J. M., M.D., 1722, Chestnut Street, Philadelphia, U.S.A.
- 1887 BALLERAY, G. H., M.D., 115, Broadway, Paterson, Jersey, U.S.A.
- L. F.F. †BANTOCK, G. GRANVILLE, M.D., F.R.C.S.Ed., *Consulting Surgeon to the Samaritan Free Hospital, 12, Granville Place, Portman Square, w.*
V.P. 1884-97. Pres. 1887. Treas. 1888-90. C. 1891-3. Libr. 1894-6.
- L. F.F. BARBOUR, A. H. FREELAND, M.A., B.Sc., M.D., *Assistant Obstetric Physician Royal Infirmary, Edinburgh, President Edinburgh Obstetrical Society, 14, Charlotte Square, Edinburgh.*
C. 1884-8. V.P. 1893-5.
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Late Editor. Hon. Sec. 1884-6. V.P. 1887-9 & 1892-4.

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C. 1898.
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- 1885 BYERS, JOHN WILLIAM, M.A., M.D., M.Ch. (Q.U.I.), M.R.C.S.E., L.M.K. and Q.C.P.I., *Professor of Midwifery and Diseases of Women and Children Queen's College, Belfast, and Physician for Diseases of Women to the Royal Hospital, Belfast*, Lower Crescent, Belfast.
Hon. Loc. Sec. C. 1893-5. V.P. 1897-8.
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- L. 1887 †CLARKE, THOMAS KILNER, F.R.C.S.Eng., M.D., M.A.Cantab., *Surgeon Huddersfield Infirmary*, 66, John William Street, Huddersfield. C. 1895-7.
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- 1886 CLEGHORN, GEORGE, M.D.Dur., Blenheim, Marlborough, New Zealand. C. 1893-5.
- L. F.F. CLENDINNEN, FREDERICK JOHN, L.R.C.P.Lond., L.R.C.P. and S. Edin., Melbourne, Australia. Hon. Loc. Sec.
- F.F. †COFFIN, R. MAITLAND, F.R.C.P.Edin., 3, Westgate Terrace, Redcliffe Square, S.W.
- F.F. COGHILL, JOHN GEORGE SINCLAIR, M.D., F.R.C.P.Edin., *Physician Royal National Hospital for Consumption, Ventnor*, St. Catherine House, Ventnor, Isle of Wight. C. 1884-6. V.P. 1888-90.

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- L. F.F. COLE, RICHARD BEVERLEY, M.D., A.M., M.R.C.S.Eng., Ph.D.,
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- 1890 †COLLINS, E. TENISON, M.R.C.S., L.S.A., 12, Windsor Place, Cardiff.
Hon. Loc. Sec. C. 1896-8.
- 1885 CONDON, JAMES HUNT, M.D., St. Andrews, M.R.C.S., L.S.A.,
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Cawnpore, India.
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- 1896 COOPER, WALTER, M.R.C.S., L.R.C.P., L.S.A., *Surgeon North
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- L. F.F. CORDES, AUGUSTE E., M.D.Paris, M.R.C.P.Lond., *Privat-Doctent of
Midwifery, ex chirurgien adjoint à la Maternité*, 12, Rue Bellot,
Geneva. V.P. 1897-8.
- 1895 CRAIG, WILLIAM BEDFORD, M.D., *Visiting Gynaecologist to St. Luke's
and St. Joseph's Hospital, Denver, and Professor of Gynecology in
the University of Denver Medical Department*, 122, East Sixteenth
Avenue, Denver, Colorado, U.S.A.
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- F.F. CRANNY, JOHN JOSEPH, M.D.Dub., A.B., F.R.C.S.I., *Surgeon to the
Jervais Street Hospital, late Examiner in Midwifery, Royal College
of Surgeons, Ireland*, 17, Merrion Square, Dublin.
- F.F. CREASE, J. ROBERTSON, F.R.C.S.Edin., 2, Ogle Terrace, South
Shields.
- 1886 CRESSWELL, PEARSON ROBERT, F.R.C.S.Ed., *Surgeon Merthyr General
Hospital, &c.*, Dowlais, Merthyr Tydvil.
- 1888 †CRICHTON, GEORGE, A.M. St. And., M.D.Edin., L.R.C.S.Edin., 96,
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- F.F. †CRIPPS, C. COUPER, M.D., M.R.C.S., 187, Camberwell Grove,
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- 1888 †CRISP, ERNEST HENRY, B.A.Camb., L.R.C.P., M.R.C.S., The Lawns,
Balham Hill, Clapham Common, S.W.
- 1891 CROMIE, JOHN, L.R.C.P. & S.Edin., 49, Stanley Street, Blyth, North-
umberland.
- F.F. CROOM, JOHN HALLIDAY, M.D., F.R.C.P.E., F.R.C.S.E., F.R.S.E.,
*Physician to, and Clinical Lecturer on Diseases of Women Royal
Infirmary, and Physician to the Royal Maternity Hospital, Edin-
burgh*, 25, Charlotte Square, Edinburgh. C. 1884-6. V.P. 1887-9.
- L. 1887 CROUZAT, E., M.D., *Professeur de Clinique d'Accouchements à la
Faculté de Médecine de Toulouse*, Toulouse, France.
- 1895 CUFFE, ROBERT, M.R.C.S., L.S.A., Woodhall Spa, Lincoln.
- 1886 CUSHING, CLINTON, M.D., 636, Sutter Street, San Francisco, U.S.A.

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- 1896 DARLEY-HARTLEY, WILLIAM, L.R.C.P.Ed., M.R.C.S.Eng., Central Chambers, East London, Cape Colony.
- 1895 †DAUBER, JOHN H., M.A., M.B., B.Ch.Oxon, *Assistant Physician Hospital for Women, Soho*, 29, Charles Street, Mayfair, w.
- F.F. †DAVIES, ELLIS THOMAS, M.D., *Senior Assistant Surgeon Hospital for Women*, 97, Shaw Street, Liverpool.
- 1892 DAVIES, W. J. F., M.D., Johannesburg, South Africa.
- 1892 DAVIS, W. E. B., M.D., 1806, Third Avenue, Birmingham, Alabama, U.S.A.
- 1897 †DELAMOTTE, PETER WILLIAM, M.R.C.P.Edin., M.R.C.S.E., Gresham Lodge, Staines, Middlesex.
- 1896 †DEVANE, THOMAS F., L.R.C.P. & S.Edin., Ashville, 23, Maple Road, Anerley, s.E.
- 1895 †DE JERSEY, WALTER BROCK, B.A., M.B., B.C.Cantab., Netherton, Guildford, Surrey.
- L. 1887 DEWES, FREDERICK JOSEPH, L.R.C.P.Lond., M.R.C.S.E., *Surgeon Captain Madras Army*, care of Messrs. Binney & Co., Madras, India.
- 1895 DICKINSON, ROBERT, L.M.D., 145, Clinton Street, Brooklyn, New York, U.S.A.
- 1886 †DICKSON, CHARLES COCHRANE, L.R.C.P. & S.Ed., Bowmont House, Willesden Lane, n.W.
- L. F.F. †DINGLE, WILLIAM ALFRED, M.D. St. And., L.R.C.P.Lond., M.R.C.S.Eng., L.S.A., *Surgeon Royal Maternity Charity*, 46, Finsbury Square, E.C. C. 1889-91. V.P. 1892-3.
- 1887 †DINGLEY, WILLIAM, M.R.C.S., L.S.A., 277, Camden Road, n. C. 1895-7.
- F.F. †DIXON, WILLIAM EDWARD, L.R.C.P.Ed., F.R.C.S.Ed., M.R.C.S., "Bridge Cot," Oulton Broad, Lowestoft.
- 1891 DODD, T.A., M.R.C.S., L.R.C.P.Ed., *Visiting Surgeon Newcastle-on-Tyne Workhouse Hospital*, 4, Eldon Square, Newcastle-on-Tyne.
- F.F. †DOLAN, THOMAS M., M.D., F.R.C.S.Edin., Horton House, Halifax, Yorkshire. C. 1886-8 & 1892-4. V.P. 1889-91.
- 1896 †D'OMBRAIN, ERNEST ARTHUR, M.B., B.S.Melb., 4, Endsleigh Gardens, n.W.
- 1895 †DONALD, ARCHIBALD, M.A., M.D.Edin., M.R.C.P.Lond., *Obstetric Physician Royal Infirmary, Manchester*, Platt Abbey, Rusholme, Manchester. C. 1897-8.
- 1897 DONALD, HUGH COLLIGHAN, M.B.Glas. and C.M., 5, Gauze Street, Paisley.
- 1898 DONOVAN, W., M.D., L.R.C.P., L.R.C.S., Glandore Erdington, Birmingham.
- L. 1889 DOUGLAS, RICHARD, M.D., Nashville, Tennessee, U.S.A.
- 1895 †DOVE, PERCY WILLIAM, L.R.C.P., M.R.C.S., Carshalton, 34, Stapleton Hall Road, Stroud Green, n.
- 1896 †DOWNES, JOSEPH LOCKHART, M.B., C.B. (Glasgow), 271, Romford Road, E.
- 1898 DOYEN, E., M.D., Paris, 1, Rue de Jena, Paris.
- 1898 DRAKE, A. THOMSON, M.B., R.U.I., L.M. Rot. Hosp., Dub., 160, Lewisham High Road, s.E.

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- F.F. †DRAKE-BROCKMAN, EDWARD FOSTER, F.R.C.S.Eng., L.R.C.P.
 Lond., 14, Welbeck Street, w.
- L. F.F. DRAPER, JAMES WILLIAM, L.R.C.P.Lond., M.R.C.S.Eng., L.S.A.,
 Almondbury, Huddersfield.
- 1891 DRUMMOND, JAMES, M.D., Wyveston Lodge, South Shields.
- L. 1885 DUDLEY, EMILIUS CLARKE, A.B., M.D., *Professor of Gynæcology*
Chicago Medical College, 1617, Indiana Avenue, Chicago, U.S.A.
- 1889 DUKE, EDGAR, M.D.Dur., M.R.C.S.Eng., 40, Pevensey Road, St.
 Leonards-on-Sea.
- F.F. DUNDAS, MORDAUNT GEORGE, M.R.C.S., L.S.A., 46, Prince of
 Wales Road, Norwich.
- 1896 †DUTCH, HENRY, M.D.Bru., L.R.C.P.Lond., 8, Berkeley Street,
 Berkeley Square, w.
- 1891 EASTES, THOMAS, M.D., F.R.C.S., 18, Manor Road, Folkestone.
- 1890 ECCLES, F. R., M.D., *Professor of Gynæcology at the Western Uni-*
versity, Ellwood Place, London, Ontario, Canada.
- 1894 †EDGE, FREDERICK, M.D., B.S., B.Sc.Lond., M.R.C.P.Lond.,
 F.R.C.S.Eng., *Surgeon to the Wolverhampton Hospital for Women*,
 Oakfield, Compton Road, Wolverhampton. C. 1897-8.
- 1894 *†EDWARDS, ROBERT, M.R.C.S., L.R.C.P.Lond.
- F.F. †ELDER, GEORGE, M.D., *Surgeon Samaritan Hospital for Women*,
Nottingham, 17, Regent Street, Nottingham.
 C. 1890-2. V.P. 1897-8.
- 1895 †ELIOT, ERNEST FRED, L.R.C.P. & S.Ed., *Surgeon Women's Hospital*,
Southampton, 13, East Park Terrace, Southampton.
- 1895 ELLIOTT, H. SCOTT, M.R.C.S., L.R.C.P.Lond., Queen's House,
 Victoria Road North, Southsea.
- 1898 EMMERSON, THOS. G., M.D., M.Ch., L.M., R.U.I., Wantage, Berks.
- 1894 EMMET, BACHE MCE., M.D., 18, East Thirtieth Street, New York,
 U.S.A. Hon. Loc. Sec.
- 1892 ENGLEMAN, FREDK., M.D., Kreuznach, Germany.
- L. 1885 ENGLEMAN, GEORGE J., M.D., 336, Beacon Street, Boston, U.S.A.
- L. 1892 ENGSTRÖM, OTTO, M.D., Helsingfors, Finland.
- F.F. †ENSOR, EDWIN THOMAS, M.D.Univ.N.Y., L.R.C.P.I., &c., 162,
 Ladbroke Grove, w.
- 1891 FARQUHARSON, JAMES DUNCAN, M.B., C.M.Glas., 242, Westgate
 Road, Newcastle-on-Tyne.
- 1885 FEARNLEY, WILLIAM, L.R.C.P.Lond., M.R.C.S.Eng., Fern Villa,
 Harrogate.
- 1891 FEHLING, PROFESSOR, M.D., 15, Magdeburger Strasse, Halle.
- L. 1886 FENGER, CHRISTIAN, M.D., 269, La Salle Avenue, Chicago, Illinois,
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- 1894 †FENTON, FREDERICK ENOS, F.R.C.S.E., M.R.C.P.Edin., Langstone,
 Uxbridge Road, Ealing, w.

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- 1896 †FENWICK, BEDFORD, M.D.Durh., M.R.C.P.Lond., *Physician to the Hospital for Women*, 20, Upper Wimpole Street, w.
- 1893 †FERGUSON, GEO. GUNNIS, M.B., C.M.Glas., Fern-Combe, New West End, Finchley Road.
- 1895 FERGUSSON, JAMES HAIG, M.D., F.R.C.P.E., *Lecturer on Midwifery and Diseases of Women, School of Medicine, Edinburgh, Examiner in Midwifery, University of Edinburgh, and Royal College of Physicians*, 25, Rutland Street, Edinburgh.
- 1893 FINDLAY, WILLIAM, A.M., M.B., C.M.Aber., 475, Union Street, Aberdeen, N.B.
- L. F.F. FITZGERALD, CHARLES EGERTON, M.D., West Terrace, Folkestone. C. 1888-9.
- 1895 FITZGERALD, WILLIAM ALEXANDER, M.D., B.A.Dublin, F.R.C.S., Villa Ciro, Monte Carlo.
- 1898 FOGERTY, W. A., M.D., M.Ch., M.A.O., *Surgeon Limerick Hospital*, 61, George Street, Limerick.
- F.F. †FORDHAM, JOHN W., L.R.C.P.Edin., M.R.C.S.Eng., 78, Mile End Road, E.
- 1898 FORDE, ERNEST S., L.R.C.P. & S.Ed., R.C.S.Edin., Dalry, Galloway.
- 1885 FRASER, GRAEME BISDEE, M.R.C.S., L.S.A., Belvidere, Weston-super-Mare.
- 1885 FULLER, LEEDHAM, M.R.C.S.Eng., L.S.A.Lond., Streatham Hill, s.w.
- 1898 GALE, ARTHUR, M.R.C.S.Eng., L.R.C.P.Lond., Manorgate House, Kingston Hill, Surrey.
- 1895 †GALLOWAY, ARTHUR W., L.R.C.P., M.R.C.S., 79, New North Road, N.
- F.F. †GARDINER, BRUCE HUBERT JOHN, M.D., L.R.C.P.Edin., M.R.C.S., Gloucester House, Barry Road, East Dulwich, S.E.
- 1894 †GARDNER, HAROLD BELLAMY, M.R.C.S.Eng., L.R.C.P.Lond., *Anæsthetist Charing Cross Hospital*, 11A, Welbeck Street, w.
- F.F. GARDNER, WILLIAM, M.D., *Professor of Gynecology in McGill's University*, 109, Union Avenue, Montreal, Canada. V.P. 1887-9.
- 1895 †GEORGE, WM. HOTTEN, M.R.C.S.Eng., L.R.C.P.Ed., 9, Osnaburgh Street, N.W.
- 1891 GIBB, C. J., M.D., *Consulting Surgeon Newcastle-on-Tyne Infirmary*, Westgate Street, Newcastle-on-Tyne.
- 1895 GIFFARD, H. E., M.R.C.S., Denham House, Egham, Surrey.
- 1893 †GILES, ARTHUR E., M.D., B.Sc.Lond., M.R.C.P., *Physician to Out-Patients, Chelsea Hospital for Women*, 37, Queen Anne Street, Cavendish Square, w. Hon. Sec. 1898.
- L. 1885 GILES, PETER, M.R.C.S., L.R.C.P., The Quinta, Brobury, Hereford.
- F.F. †GIMSON, THOMAS STEVENS, M.R.C.S., 32, Fitzroy Square, w.
- 1897 GLENCORE-HAYS, ALEX., L.R.C.P. & S.Ed., Banbury.
- 1897 GODFREY, FRANK W. A., M.D.Edin. & C.M., *House Surgeon Scarborough Hospital and Dispensary*, 5, Montpellier Terrace, Scarborough.

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- 1891 †GODSON, CLEMENT, M.D., M.R.C.P., *Consulting Physician to the City of London Lying-in Hospital, late Assistant Physician Acch. St. Bartholomew's Hospital*, 9, Grosvenor Street, w.
C. 1892-4 & 1897-8. Pres. 1895-6.
- 1891 GOGGANS, J. A., M.D.N.Y., Alexander City, Alabama, U.S.A.
- F.F. GOLDSMITH, GEORGE POCKOCK, M.D., 3, Harpur Place, Bedford.
C. 1891-3.
- 1896 *†GOODALL, CHARLES EDWIN, M.B., B.S.Melb., Travelling.
- 1891 GOWANS, WILLIAM, M.D., F.R.C.S.Edin., Westoe House, Westoe, South Shields.
- 1896 †GRANT, WILLIAM FRANCIS, M.D.Edin., 38, Green Street, Bethnal Green, E.
- 1896 GRAY, WILLIAM, M.B. and C.M.Edin., Church Square, West Hartlepool.
- 1896 GREEN, WILLIAM EDWARD, M.R.C.S.Eng., L.S.A., Belgrave House, Sandown, Isle of Wight.
- 1891 GREEN, W. O., M.D., 709, 2nd Street, near Chestnut, Louisville, Kentucky, U.S.A.
- F.F. †GRIFFITH, G. DE KORREQUER, L.R.C.P., M.R.C.S., *late Senior Physician to Hospital for Women and Children, Pimlico*, 34, St. George's Square, S.W., and New Indian Club, Whitehall Gardens, S.W.
- F.F. †GRIGG, W. CHAPMAN, M.D., M.R.C.P., *Physician to Queen Charlotte's Hospital, late Assistant Obstetric Physician to the Westminster Hospital*, 27, Curzon Street, Mayfair, w.
C. 1884-6 & 1892-4. Hon. Sec. 1886-7. V.P. 1888-90. Pres. 1891.
- L. 1885 †GRIMSDALE, THOMAS BAHINGTON, B.A., M.B.Cantab., M.R.C.S., *Assistant Surgeon Hospital for Women, Liverpool*, 29, Rodney Street, Liverpool.
Hon. Loc. Sec. C. 1894-6.
- L. 1888 GUSTAV, DIRNER, M.D., 9, Kossuth utóxa, Buda Pesth, Hungary.
- 1885 HACKNEY, JOHN, M.D., M.R.C.S., L.S.A., Oaklands, Hythe, Kent.
- 1895 HALL, ERNEST AMOS, M.D., C.M.Ont., L.R.C.P.Ed., Victoria, British Columbia.
- L. 1885 HALL, RUFUS B., M.D., 37, Crown Street, Walnut Hills, Cincinnati, U.S.A.
- 1893 †HALL, WILLIAM WINSLOW, M.D., 195, Belsize Road, Kilburn, N.W.
- L. 1886 HANKS, HORACE TRACY, M.D., 766, Madison Avenue, New York, U.S.A.
- 1897 †HARLEY, HENRY, M.D., R.U.S., 27, Victoria Road, Battersea Park, S.W.
- F.F. HARRIES, THOMAS DAVIES, M.R.C.P.Lond., F.R.C.S.Eng., *Surgeon Aberystwith Infirmary and Cardiganshire General Hospital*, Grosvenor House, Aberystwith.
- 1898 HARTE, C. H., L.R.C.P.I., L.R.C.S.I., L.M., 14, Croom's Hill, Greenwich.
- 1897 HARTLEY, REGINALD, F.R.C.S.Ed., 68, Porchester Terrace, Hyde Park, w.

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 F.F. HASLAM, WM. DOIGE, M.D.Brux., M.R.C.S.Eng., L.S.A., Maywood, Christchurch Road, Bournemouth.
- F.F. †HAULTAIN, FRANCIS WM. NICOL, M.D., F.R.C.P.Ed., *Physician for Diseases of Women, Royal Dispensary, Lecturer on Midwifery and Diseases of Women, Edinburgh School of Medicine*, 17, Rutland Street, Edinburgh. Hon. Loc. Sec. C. 1896-8.
- 1889 HAWKES, A. E., M.D., L.R.C.P.Edin., L.R.C.S.Edin. and L.M., 22, Abercromby Square, Liverpool.
- 1891 HAWKINS-AMBLER, G. A., F.R.C.S.Edin., 67, Rodney Street, Liverpool.
- L. 1886 HEADLEY, W. BALLS, M.A., M.D., F.R.C.P., 4, Collins Street, Melbourne, Australia. C. 1896-8.
- 1887 HEALD, BENJAMIN GREV, L.R.C.P.Ed., L.F.P.S.G., Red House, East Street, Leeds.
- F.F. HEBERT, PAUL ZOTIQUE, M.D., C.M.McGill, L.R.C.P.Lond., 16A, Old Cavendish Street, Cavendish Square, w. C. 1896-8.
- L. 1885 HEIBERG, WILHELM, M.D., *Surgeon to the County Hospital of Copenhagen*, Frederiksberg, Copenhagen.
- 1898 HELME, T. A., M.D.Edin., M.R.C.P.Lond., M.R.C.S.Eng., 258, Oxford Street, Manchester.
- 1896 HENRY, THOMAS JAMES, F.R.C.S.Ed., Grafton, Clarence River, New South Wales.
- L. 1887 HETHERINGTON, GEO. ALBERT, M.D., St. John, N.B., Canada.
- F.F. †HICKS, GEORGE BORLASE, M.R.C.S.Eng., L.R.C.S.Edin., 149, Amherst Road, Hackney Downs, N.E.
- 1891 HILL, J. STONELEY, M.B. and C.M.Edin., 33, Great Charlotte Street, Blackfriars, S.E.
- F.F. †HILLS, AUGUSTUS PHILLIPS, M.R.C.S.Eng., Carlton House, Prince of Wales Road, Battersea Park, S.W. C. 1888-9.
- F.F. †HINE, ALFRED LEONARD, L.R.C.P.Lond., M.R.C.S., L.S.A., Eppingdale, Leytonstone Road, E. C. 1891-2.
- L. 1887 HOAG, JUNIUS C., M.D., 58, 43rd Street, Chicago.
- 1896 HOBSON, WILLIAM HENRY, M.R.C.S., L.S.A., 38, Leinster Gardens, Lancaster Gate, w.
- F.F. †HODGSON, ROBERT HUGH, L.R.C.P.Edin., M.R.C.S.Eng., 204, Rye Lane, Peckham, S.E. C. 1894-7. V.P. 1898.
- F.F. †HOLLAND, EDMUND, M.D., M.R.C.P., F.R.C.S., *Physician to the Hospital for Women*, 1, Titchfield Terrace, North Gate, Regent's Park, N.W. C. 1893-5.
- 1895 †HOLLAND, E. C., M.B., C.M.Ed., "Airdrie," The Avenue, Kew Gardens, Surrey.
- L. 1885 HOOPER, JOHN WILLIAM DUNBAR, L.R.C.P.Edin., L.R.C.S.Edin., *Surgeon to the Women's Hospital, Melbourne*, 54, Collins Street, East, Melbourne.
- 1895 †HOUGHIN, EDMUND KING, L.R.C.P. and S.Ed., L.S.A., *District Surgeon, Royal Maternity Charity of London, Deputy Coroner, East London Division*, Durham House, High Street, Stepney, E.
- F.F. HOWELL, HORACE SYDNEY, M.D., F.R.C.S., East Grove House, 18, Boundary Road, South Hampstead, N.W. C. 1898.
- 1898 HOYD, THOMAS-SARGENT, M.D.Dub.Univer., 16, Devonshire Road, Birkenhead.

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- 1898 HUNTER, S. C., M.D., M.Ch., L.M., L.A.H.Dub., Lynher House, Clapham, s.w.
- 1887 HUTCHINSON, GEORGE WRIGHT, M.D.Aber., M.R.C.P.Edin., Chip-ping Norton, Oxon.
- 1898 INGLE, A. C., M.D., B.C.Cantab., M.R.C.S.Eng., 21, Regent Street, Cambridge.
- F.F. †ISDELL, FITZGERALD, M.A., M.D.Dub., 189, Shaftesbury Avenue, w.c.
- F.F. JACKSON, THOMAS VINCENT, F.R.C.S.Edin., *Senior Surgeon to the Wolverhampton and Staffordshire General Hospital*, Whetstone House, Wolverhampton. C. 1884-6.
- 1895 JAMES, STANLAKE, L.R.C.P., M.R.C.S., Craig's Court, Simla, India.
- F.F. †JAMES, W. CULVER, M.D., 15, Marloes Road, Kensington, w. C. 1884-6.
- 1894 †JARDINE, JAMES, M.B.Edin., C.M., 30, Sheen Road, Richmond, Surrey.
- F.F. JAY, HENRY MASON, M.D.Aberd., F.R.C.S.Ed., Chippenham, Wilts.
- 1891 †JAYNES, V. A., M.R.C.S.Eng., L.S.A., 157, Jamaica Road, Bermondsey.
- 1898 JELLETT, HENRY, M.D.Dub., M.R.C.P.I., Rotunda Hospital, Dublin.
- 1887 †JESSETT, FREDERICK BOWREMAN, F.R.C.S.Eng., *Surgeon to the Cancer Hospital, Brompton*, 23, Brook Street, w. C. 1891-2 & 1894-7. V.P. 1898. Pres. 1893.
- L. 1885 JEWETT, CHARLES, M.D., 330, Clinton Avenue, Brooklyn, U.S.A.
- 1897 JOHNSTON, G. J. WALDRON, M.D.R.U.I., Oswald House, Nether Hall Road, Doncaster.
- 1886 JOHNSTON, JOHN, M.R.C.S.Eng., 2, Rocky Hill Terrace, Maidstone.
- L. 1886 JOHNSTONE, ARTHUR, W., M.D., Madisonville Road, Cincinnati, Ohio.
- 1891 JOHNSTONE, GEORGE W., L.R.C.P., Government Medical Officer, West Coast Presidency, Kudas, British North Borneo.
- 1894 †JOHNSTONE, RALPH W., M.D., B.Ch., B.A.O., 1, Watson Place, Hans Place, s.w.
- 1887 JONES, C. N. DIXON, M.D., 501, West 142nd Street, New York.
- 1894 JONES, D. MARINUS, M.D., M.Ch.Edin., Beechwood, Victoria Road, Aldershot.
- F.F. †JONES, H. MACNAUGHTON, M.D., M.Ch. Q.U.I., M.A.O., F.R.C.S.I. and Edin., *late Examiner in Midwifery Royal University, Ireland, and Professor of Midwifery, Queen's College, Cork*, 141, Harley Street, w. C. 1890-2. V.P. 1895-7. Pres. 1898.
- 1895 †JONES, J., L.R.C.P., M.R.C.S., Claremont, Newlands Park, Sydenham, s.e.
- F.F. †JONES, LEWIS, M.D., M.R.C.S., Oakmead, Balham, s.w. C. 1894-6.
- 1893 †JORDAN, JOHN FURNEAUX, M.B.R.U.I., F.R.C.S.Eng., *Surgeon Women's Hospital, Birmingham*, 114, Edmund Street, Birmingham.

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- 1885 JOUBERT, CHARLES HENRY, M.B.Lond., F.R.C.S.Eng., *Surgeon Lieut. Colonel I.M.S., Professor of Midwifery and Obstetric Physician, Medical College, Calcutta, 6, Harrington Street, Calcutta.*
- 1895 †KEITH, GEORGE E., M.B., C.M.Ed., 42, Charles Street, Berkeley Square, W. Hon. Sec. 1897-8.
- 1894 †KEITH, SKENE, M.B., C.M.Edin., F.R.C.S.E., 42, Charles Street, Berkeley Square, W. C. 1897-8.
- L. 1889 KELLOGG, J. H., M.D., Battle Creek, Michigan, U.S.A.
- 1891 †KEMPSTER, WM. H., M.B.Durh., 1, Albert Road, Battersea Park, S.W.
- F.F. †KENNEDY, JOHN BLYDESTYN, M.R.C.S.Eng., L.S.A., Stratford Hall, Stratford, Essex.
- F.F. †KIALLMARK, HENRY WALTER, M.R.C.S., 5, Pembridge Gardens, Bayswater, W.
- L. 1886 KING, ALBERT F. A., M.D., 1315, Mass. Avenue, N.W., Washington, D.C., U.S.A.
- 1898 KINKEAD, R. J., M.D., L.R.C.S.I., *Prof of Obstetrics, Queen's College, Galway, Galway.*
- 1893 KIRKLEY, C. A., M.D., 141, 11th Street, Toledo, Ohio, U.S.A.
- F.F. KNOTT, CHARLES, M.R.C.P.Edin., Liz Ville, Elm Grove, Southsea.
- F.F. *†LAMPREY, RICHARD ORFORD, L.R.C.P. and L.R.C.S.Edin.
- 1898 LANDAU, L., M.D., *Professor of Gynecology of the University of Berlin, Berlin.*
- 1897 LARWILL, JOHN, L.R.C.P. and S.Ed., L.F.P.S.Glas., Kote, Japan.
- L. 1886†LAWRIE, JAS. MCPHERSON, M.D., *Physician to the Weymouth Sanatorium, Greenhill, Weymouth.* C. 1894-6.
- 1894 LEAHY, ALBERT WILLIAM DENIS, M.D.Durh., F.R.C.S., *Officiating Professor of Midwifery and Obstetric Physician Eden Hospital, Calcutta, 6, Elysium Row, Calcutta.*
- L. F.F. LEBLOND, ALBERT, M.D., *Médecin de Saint-Lazare, 53, Rue d'Hauteville, Paris.*
- 1889 LEIGH, W. W., L.R.C.P.Edin., M.R.C.S.Eng., L.S.A., Glyn Bargoed, Treharris, R.S.O., South Wales.
- L. F.F.*LE PAGE, JOHN FISHER, M.D., L.R.C.P.Edin.
- F.F. LESLIE, WILLIAM MURRAY, M.D.Edin., C.M., F.R.C.S.E., 41, Glengall Road, Cubitt Town, E.
- F.F. †LEWIS, HENRY, M.D.Brux., M.R.C.S., West Terrace, Folkestone. C. 1895-7.
- F.F. †LIGERTWOOD, THOMAS, M.D., F.R.C.S.Edin., Royal Hospital, Chelsea, S.W. C. 1892-3.
- 1891 LLOYD, H. J., L.R.C.P.Edin., L.F.P.S.Glas., Tyncoed, Barmouth, North Wales.
- F.F. †LLOYD, SAMUEL, M.D., 4, High Street, Bloomsbury, W.C.
- 1893 LLOYDE, JOHN HY., L.R.C.P., L.R.C.S.Edin., 6, Harpur Place, Bedford.

Elected.

- 1895 †LONG, RICHARD PATRICK, L.F.P.S.Glas., L.S.A., 99, Queen's Crescent, Haverstock Hill, N.W.
- F.F. †LOW, RICHARD MARSDEN PILKINGTON, M.B., C.M.Edin., L.R.C.P. Edin., L.R.C.S.Edin., L.M., 70, Philbeach Gardens, S.W.
C. 1896-8.
- 1895 †LUCY, WM. CUBITT, M.D.Aberd., M.R.C.S., Penrose House, Rosslyn Hill, Hampstead, N.W.
- 1894 LUTAUD, AUGUSTE, M.D.Paris, *Redacteur en Chef du Journal de Médecine de Paris; Médecine Adj. de l'Hôpital St. Lazare*, 47, Boulevard Haussmann, Paris.
- F.F. †LYCETT, JOHN ALLAN, M.D.St. And., M.R.C.P.Edin., *Surgeon Wolverhampton and District Hospital for Women*, Gatcombe, Wolverhampton.
Hon. Loc. Sec. C. 1889-91.
- F.F. MACAN, ARTHUR VERNON, B.A., M.B.Dub., M.Ch., M.A.O., F.R.C.P.I., *King's Professor of Midwifery, Trinity College; Obstetric Physician Sir P. Dun's Hospital; Ex-Master of the Rotunda Hospital, Dublin*, 53, Merrion Square, Dublin.
V.P. 1887-8. Pres. 1889. C. 1890-2.
- L. 1885 †MACAN, JAMESON JOHN, M.A., M.D.Cantab., M.R.C.S., 62, George Street, Portman Square, W.
C. 1895-7. V.P. 1898.
- F.F. MACCULLUM, DUNCAN C., M.D., 45, Union Avenue, Montreal, Canada.
- 1895 MACDONALD, JAMES, M.D.Ed., Bloxwich, Walsall, Staffs.
- 1898 MACDONNELL, ALEXANDER, L.R.C.S.Ed. and L.S.A., Manor House, Manor Road, London, N.
- F.F. †MACGAVIN, JOHN, L.R.C.P. and S.Edin., 72, Trafalgar Road, Greenwich, S.E.
- 1895 MACGREGOR, ANGUS VALLANCE, M.B.Edin. and C.M., Milton House, West Hartlepool.
- 1897 MACGREGOR, PETER, F.R.C.S.Ed., Rashcliffe, Huddersfield.
- L. 1889 MACKAY, W. A., M.D.Edin., F.R.C.S.Edin., Huelva, Spain.
- L. 1888 †MACKINTOSH, G. D., L.R.C.P.I., L.M.Ed., Fairford House, Lower Kennington Lane, S.E.
- 1897 MACNAUGHTON-JONES, H. M., M.B., B.Ch.R.U.I., M.R.C.P., M.R.C.S., 29, Charles Street, Berkeley Square, W.
- 1894 MADDIN, JOHN WASLEY, Junr., M.D., Nashville, Tennessee, U.S.A.
- 1894 MANSEL, EDWARD L., M.B., C.M.Aber., The Caen, Ashted, Surrey.
- 1888 MANTON, WALTER PORTER, M.D., 32, Adams Avenue, W., Detroit, Mich., U.S.A.
- 1887 MARLEY, HENRY FREDERICK, M.R.C.S.E., L.R.C.P., L.S.A., L.M., The Nook, Padstow, Cornwall.
- 1895 MARTIN, CHARLES, M.B., C.M.Ed., Cleveland House, 35, George Road, Edgbaston, Birmingham.
- 1891 MARTIN, CHRISTOPHER, M.B.Edin., C.M., F.R.C.S.Eng., *Surgeon Birmingham and Midland Hospital for Women*, 103, Newhall Street, Birmingham.
Hon. Loc. Sec. C. 1897-8.

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- 1896 †MARTIN, CHARLES RUDINGE, L.R.C.P. and S.Edin., 89, Eaton Terrace, S.W.
- F.F. *MASSON, GEORGE BLAKE, L.R.C.P. and S.Edin., L.M.
- 1896 MATTICE, RICHARD ISA, M.D.McGill, L.R.C.P.Lond., Omaha, Nebraska, U.S.A.
- 1895 †MAY, EDWIN HOOPER, M.D.St. And., F.R.C.S., 14, Finsbury Circus, E.C., and Tottenham High Cross, Middlesex.
- 1896 MAYBURY, LYSANDER, M.D.R.U.I., M.Ch., M.R.C.S.Eng., 9, Hampshire Terrace, Southsea.
- 1892 MCMURTRY, L. S., M.D., 231, West Chestnut Street, Louisville, Kentucky, U.S.A.
- 1891 MEARNs, WILLIAM, M.A., M.D., *Physician Children's Hospital, Gateshead-on-Tyne*, 22, Bewick Road, Gateshead-on-Tyne.
- 1891 MEEK, H., M.D., 331, Queen's Avenue, London, Ontario, Canada.
- 1887 MENDES DE LEON, M.A., M.D., Sarphati Straat, 1H, Amsterdam.
C. 1892.
- L. 1886 MERRIMAN, HENRY P., M.D., 2239, Michigan Avenue, Chicago, U.S.A.
- 1896 METCALFE, JAMES, M.D.BruX., L.R.C.P. and S.Edin., *Surgeon to St. Catherine's Home for Cancer, Bradford*, 8, Heaton Grove, Bradford, Yorks.
- 1896 †MICHELL, J., M.R.C.S., L.S.A., 11, De Vere Gardens, Kensington Palace, W.
- 1891 MICHIE, H., M.B.Aber., C.M., *Surgeon to the Samaritan Hospital*, 27, Regent Street, Nottingham.
C. 1894-6.
- 1895 †MICKLE, ARTHUR W. T. F., M.B., C.M.Edin., 549, Commercial Road, E.
- 1895 †MILLER, FREDK. R., M.D.BruX., L.R.C.P.Lond., 31, Shepherd's Bush Road, W.
- L. 1886 MILLER, DE LASKIE, M.D., *Professor of Obstetrics, Rush Medical College*, 446, Chestnut Street, Chicago, U.S.A.
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- 1892 MOLSON, CAVENDISH, L.R.C.P., East View, Woking.
- 1896 MORGAN, THOMAS HOWARD, M.D., F.R.C.S.Ed., Gympie, Queensland, Australia.
- 1887 MORISON, ALBERT EDWARD, M.B., C.M.Ed., F.R.C.S.Edin., Hartlepool.
- 1891 MORISON, J. RUTHERFORD, M.B., F.R.C.S., *Assistant Surgeon Newcastle-on-Tyne Infirmary*, 14, Saville Row, Newcastle-on-Tyne.
C. 1894-6.
- 1894 MORLAND, CHARLES HENRY DUNCAN, M.B., B.S.Durh., M.R.C.S., 5, Dumfries Place, Cardiff.
- 1898 MORRIS, R. J., L.S.A., 5, Cable Street, Lancaster.
- F.F. †MORTON, THOMAS, M.D.Lond., M.R.C.S., L.S.A., *Ex-President of the Harveian Society of London*, 15, Greville Road, Kilburn, N.W.
C. 1889-90.
- 1898 MOSSE, HERBERT RYDING, M.D., M.R.C.S.Eng., Hobart House, Clapham Common, S.W.

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C. 1884-6. Hon. Sec. 1887-8. V.P. 1889-91. Libr. 1892. Treas. 1893-8.

L. 1885 MUNDÉ, PAUL F., M.D., *Professor of Gynæcology at the New York Polyclinic, and at Dartmouth College*, 20, West Forty-Fifth Street, New York, U.S.A. V.P. 1886-7.

F.F. MUNRO, ROBERT H., M.B., C.M.Edin., Freiockheim, Arbroath, Forfarshire.

F.F. MURPHY, JAMES, M.A., M.D.Dub., *Surgeon to the Sunderland Infirmary, Lecturer on Medical Jurisprudence, University of Durham*, Holly House, Sunderland. Hon. Loc. Sec. V.P. 1892-4.

1896 MURRAY, CHAS. F. K., M.D., R.U.I., F.R.C.S., Kenilworth, Cape Town, S. Africa.

1885 MURRAY, ROBERT MILNE, M.A.St. And., M.B.Edin., F.R.C.P.Edin., F.R.S.E., *Assistant Physician Maternity Hospital; Lecturer on Midwifery and Gynæcology, Edinburgh School; Physician for Diseases of Women to the Western Dispensary*, 11, Chester Street, Edinburgh. C. 1886-8.

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C. 1892. Hon. Sec. 1893-4. Editor 1894-6. V.P. 1895-7.

1889 †NAUMANN, J. C. FRANCIS, M.D.Bru., L.R.C.P.Lond., M.R.C.S. Eng., *Physician Italian Hospital*, 125, Gower Street, w.c.

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1896 NEWNHAM, WILLIAM HARRY CHRISTOPHER, M.A., M.B.Camb., M.R.C.S., *Physician Accoucheur Bristol General Hospital*, Chandos Villa, Queen's Road, Clifton. C. 1898.

1894 *†OAKELEY, CHARLES EDWARD, L.R.C.S., L.R.C.P.Edin.

1896 †O'BRYEN, JAMES WHEELER, M.D.Vermont, L.R.C.P. and S.Ed., Springfield Lodge, Sydenham, S.E.

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- L. 1889 †O'CALLAGHAN, ROBERT, L.R.C.P., F.R.C.S.I., *late Surgeon Carlrow Infirmary and Senior Surgeon Chelsea Hospital for Women*, 137, Harley Street, w. C. 1891-3.
- 1885 O'DONNELL, THOMAS J., L.K.Q.C.P.I., L.M., L.R.C.S.I., *Surgeon-Major Army, Oorgaum, Mysore State, India.*
- 1894 †OLIVER, JAMES, M.D., M.R.C.P.Lond., F.R.S.Edin., *Physician to the Hospital for Women, Soho Square, W.*, 18, Gordon Square, w.c. C. 1896-8.
- 1895 †OLIVER, FRANKLIN HEWITT, L.R.C.P.Lond., L.S.A., *District Surgeon Royal Maternity Charity of London, and District Medical Officer City of London Lying-in Hospital*, 2, Kingsland Road, n.e.
- 1891 OLIVER, THOS., M.A., M.D., F.R.C.P., *Professor of Physiology, University of Durham, Physician Newcastle-on-Tyne Infirmary*, 7, Ellison Place, Newcastle-on-Tyne. C. 1892-4.
- L. 1889 OSTROM, H. J., M.D., 42, West 48th Street, New York, U.S.A.
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- 1898 PARSONS, F. W., L.R.C.P.Lond., M.R.C.S., L.S.A., 27, Lingfield Road, Wimbledon.
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- 1898 PILLOW, H., M.D., M.Ch., B.A.O., R.U.I., 1, Pembroke Gardens, w.
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- 1886 †POPE, HARRY CAMPBELL, M.D.Lond., F.R.C.S., 280, Goldhawk Road, Shepherd's Bush, w. C. 1890-2.
- 1891 †POULTER, REGINALD, M.R.C.S., L.R.C.P., 4, Gordon Mansions, Gower Street, w.c.
- 1888 †POWELL, HENRY FITZGERALD, M.D., F.R.C.S.Edin., 7, Connaught Street, Hyde Park, w. C. 1896-8.
- 1895 *PRENDERGAST, J. M. VINCENT, M.D., R.U.I., M.A.O., M.R.C.P. Lond.
- F.F. †PURCELL, FERDINAND ALBERT, M.D., M.Ch., R.U.I., M.R.C.S., L.M.Eng., *Surgeon to the Cancer Hospital, Brompton*, 7, Manchester Square, w. C. 1888-9, 1893-5.

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- L. F.F. PUREFOY, RICHARD DANCER, M.D., T.C.D., F.R.C.S.I., *Obstetric Surgeon Adelaide Hospital*, 20, Merrion Square, Dublin.
C. 1884-6.
- 1895 †PUTSEY, WILLIAM H., M.D.Dur., M.R.C.S., *Fleet Surgeon (retired) R.N., Medical Registrar South London Hospital for Women*, 50, Tyrwhitt Road, Brockley, S.E.
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- 1887 RAE, GEORGE A., L.R.C.P., L.R.C.S.Ed., 1, Outram Terrace, Stoke, Devonport.
- 1894 †RAMSAY, FRANK WINSON, M.D., B.S.Durh., *Jesmond Dene*, Bournemouth.
- L. F.F. RASCH, ADOLPHUS A. F., M.D., M.R.C.P., *late Physician for Diseases of Women and Children to the German Hospital, London*, Blumenstrasse, 5, Halle à Saale, Germany. C. 1891-3. V.P. 1895-6.
- F.F. RAWLINGS, JOHN ADAMS, M.R.C.P.Edin., M.R.C.S.Eng., *Physician to the Swansea Hospital*, Preswylfa, Swansea. C. 1888-9.
- 1898 REDFERN, JOHN J., M.D., M.A.O., *Surgeon to Croydon General Hospital*, Croindene, Wellesley Road, Croydon.
- L. 1887 REED, CHARLES A. L., M.D., *Professor of Gynecology and Abdominal Surgery at the Cincinnati College of Medicine and Surgery, and Surgeon to the Cincinnati Free Surgical Hospital for Women*, Cincinnati, Ohio.
- F.F. †REEVES, HENRY ALBERT, F.R.C.S.Edin., *Surgeon to the Hospital for Women*, 7, Grosvenor Street, W. C. 1884-6. V.P. 1892-4.
- F.F. REID, W. LOUDON, M.D.Glas., F.F.P.S.Glas., *Professor of Midwifery and Diseases of Women and Children, Anderson's College, Glasgow, Physician to Dispensary for Diseases of Women, Western Infirmary*, 7, Royal Crescent, Glasgow. C. 1888-9. V.P. 1896-8.
- F.F. †RICHARDSON, JOHN HUMPHREY HOWARD, M.R.C.S., L.S.A., 22, North Street, Wandsworth, S.W.
- 1887 RICHMOND, THOMAS, L.R.C.P.E., L.F.P.S.G., 2, Royal Crescent, W., Glasgow.
- L. 1888 RICKETTS, E. S., M.D., 93, East Fourth Street, Cincinnati, Ohio, U.S.A.
- F.F. †RILEY, JAMES, L.R.C.P.Edin., M.R.C.S.Eng., L.M., L.S.A., 131, St. George's Road, South Belgravia, S.W.
- L. F.F. ROBERTS, D. LLOYD, M.D., F.R.C.P., F.R.S.Edin., *Obstetric Physician to the Manchester Royal Infirmary, Physician to St. Mary's Hospital, Manchester, and Lecturer on Clinical Midwifery and the Diseases of Women in Owens College*, 11, St. John Street, Manchester. C. 1884. V.P. 1886-8.
- F.F. †ROBERTS, THOMAS, L.S.A.Lond., *District Surgeon Royal Maternity Charity*, Falloden House, 95, Tredegar Road, Bow, E.
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- 1898 ROBINSON, MALACHI J., M.D., M.Ch., 257, Essex Road, Canonbury, N.
- 1895 ROBSON, ALFRED WILLIAM, L.R.C.P. and S.Ed., 111, Park Road, Aston, Birmingham.
- 1888 †ROBSON, ARTHUR W. MAYO, F.R.C.S.Eng., L.R.C.P.Lond., *Professor of Surgery Yorkshire College, Surgeon Leeds General Infirmary*, 7, Park Square, Leeds.
Hon. Loc. Sec. C. 1893-5 & 8. V.P. 1896. Pres. 1897.
- 1897 ROBSON, HERBERT J., M.R.C.S. and L.R.C.P.Lond., 2, Hillary Place, Leeds.
- F.F. ROOTS, WILLIAM HENRY, M.R.C.S.Eng., Canbury House, Kingston-on-Thames.
- L. 1885 ROSEBRUGH, JOHN WELLINGTON, M.D., Hamilton, Ont., Canada.
- L. 1888 ROSS, JAMES F. W., M.D., C.M., L.R.C.P.Lond., *Professor of Gynaecology and Abdominal Surgery Ontario Medical College for Women, Gynaecologist to Toronto General Hospital, St. Michael Hospital, and St. John's Hospital for Women*, 481, Sherbourne Street, Toronto, Canada.
Hon. Loc. Sec.
- F.F. †ROUTH, CHARLES HENRY FELIX, M.D., M.R.C.P., *Consulting Physician to the Samaritan Free Hospital*, 52, Montague Square, W.
V.P. 1884-6 and 1896-8. C. 1888 and 1892-4. Pres. 1890.
- L. F.F. RUSSELL, LOGAN D. H., M.D., M.R.C.S., Government Park, St. Catherine, Jamaica.
- 1897 RYALL, CHARLES, F.R.C.S., 9, Bentinck Street, W.
- 1895 †SAUNDERS, FREDERICK HERBERT, M.D., C.M.Aberd., 1, Redcliffe Gardens, South Kensington, S.W.
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C. 1884-6, 1895-7. V.P. 1889. Pres. 1894.
- 1895 SAMBON, LUIGI, M.D., 41, Via Palestro, Rome, Italy.
Hon. Loc. Sec.
- L. 1886 *SAWYER, EDWARD WARREN, M.D.
- 1892 †SCHACHT, F. F., M.D., B.A.Cantab., *late Physician to Out-Patients, Chelsea Hospital for Women*, 168, Earls Court Road, S.W.
Hon. Sec. 1893-6. Editor 1896-8. V.P. 1897-8.
- 1889 †SCOTT, ALEXANDER THOMAS, M.R.C.S.Eng. and L.S.A., 8, Parkhurst Road, Camden Road, N.
- 1894 *†SCOTT, JOHN, M.D., M.C., M.A.Aber.
- 1895 SCOTT, T. BODLEY, L.R.C.P.Lond., M.R.C.S., Poole Road, Bournemouth.
- 1887 †SHAW, JOHN, M.D.Lond., M.R.C.P.Lond., *Obstetric Physician and Gynaecologist North-West London Hospital*, 12, Chandos Street, W.
C. 1888-90. Hon. Sec. 1895-7.
- 1885 *†SHAW-MACKENZIE, A. C., L.S.A.
- 1891 †SHAW-MACKENZIE, J. A., M.D.Lond., *late Physician to Out-Patients, and Pathologist Chelsea Hospital for Women*, 31, Grosvenor Street, W.
C. 1893-5.

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- 1895 SIMEON, E. ARCHIBALD, L.R.C.P. and S.Ed., 350, Hoe Street, Walthamstow, Essex.
- 1889 †SIMPSON, ALEXANDER RUSSELL, M.D., F.R.C.P.Edin., F.F.P.S.Glas., F.R.S.E., *Professor of Midwifery and Diseases of Women, Edinburgh University, Physician for Diseases of Women Royal Infirmary and Maternity Hospital, 52, Queen Street, Edinburgh.*
V.P. 1890-1. Pres. 1892. C. 1893-5.
- L. 1885 SKENE, ALEXANDER J. C., M.D., 167, Clinton Street, Brooklyn, N.Y., U.S.A.
- F.F. †SLIMON, WILLIAM, M.B.Glas., F.F.P.S.Glas., 566, Mile End Road, Bow, E.
- 1886 SLOAN, SAMUEL, M.D., F.F.P.S.Glas., *Consulting Physician to the Glasgow Maternity Hospital, 5, Somerset Place, Sauchiehall Street West, Glasgow.*
C. 1889-91.
- L. 1887 SMART, DAVID, M.B., B.Sc.Edin., *Assistant Surgeon Hospital for Women, Liverpool, 74, Hartington Road, Liverpool.*
- 1889 SMITH, ALFRED J., M.B.R.U.I., M.Ch., M.A.O., *Professor of Midwifery and Diseases of Women, Catholic University, Dublin, Gynæcologist St. Vincent's Hospital, 32, Lower Baggot Street, Dublin.*
C. 1896-8.
- 1895 *†SMITH, ERNEST BARRATT, M.B., C.M.Aberd., M.R.C.S.
- L. F.F. †SMITH, E. T. AYDON, L.S.A., Devon Lodge, 2, Alexandra Road, St. John's Wood, N.W.
C. 1898.
- L. F.F. †SMITH, HEYWOOD, M.A., M.D., M.R.C.P., 18, Harley Street, W.
Hon. Sec. 1884-5. C. 1889-91 & 1898. V.P. 1892-4.
- 1891 SMITH, J. W., M.D., Balgonie House, Ryton-on-Tyne, Durham.
- F.F. †SMITH, RICHARD T., M.D., M.R.C.P., *Physician to the Hospital for Women, Soho, 53, Harley Street, W.*
C. 1884-6 & 1898. Hon. Sec. 1889-90. V.P. 1891-3.
- F.F. SMYLY, W. JOSIAH, M.D., T.C.D., F.R.C.P.I., F.R.C.S.I., *Master of the Rotunda Hospital, Examiner in Midwifery, R.C.P.I., Dublin, 56, Fitzwilliam Square, Dublin.*
Hon. Loc. Sec. C. 1888-90. V.P. 1892-4.
- 1895 †SMYTH, ALEXANDER CARSON, M.B., C.M.Ed., Lochiel, 16, Craven Park, Harlesden, N.W.
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C. 1887-9. V.P. 1889-91.
- 1893 †SMYTH, JOHN WALKER, L.R.C.P. and S.Edin., 13, Colebrooke Row, City Road, N.
- 1896 †SNOW, HERBERT, M.D.Lond., M.R.C.S., *Surgeon Cancer Hospital, Brompton, 6, Gloucester Place, Portman Square, W.*
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C. 1887-9. V.P. 1890-92.
- 1889 STEKOULIS, CONSTANTIN, M.D., Péra, Rue Souterazi 7, Constantinople.
- 1893 †STEPHEN, GEORGE CALDWELL, M.D., C.M.McGill, 54, Evelyn Gardens, South Kensington, S.W.
- 1885 STEVENSON, EDMUND SINCLAIR, M.D., F.R.C.S.E., Cape Town, Cape of Good Hope.
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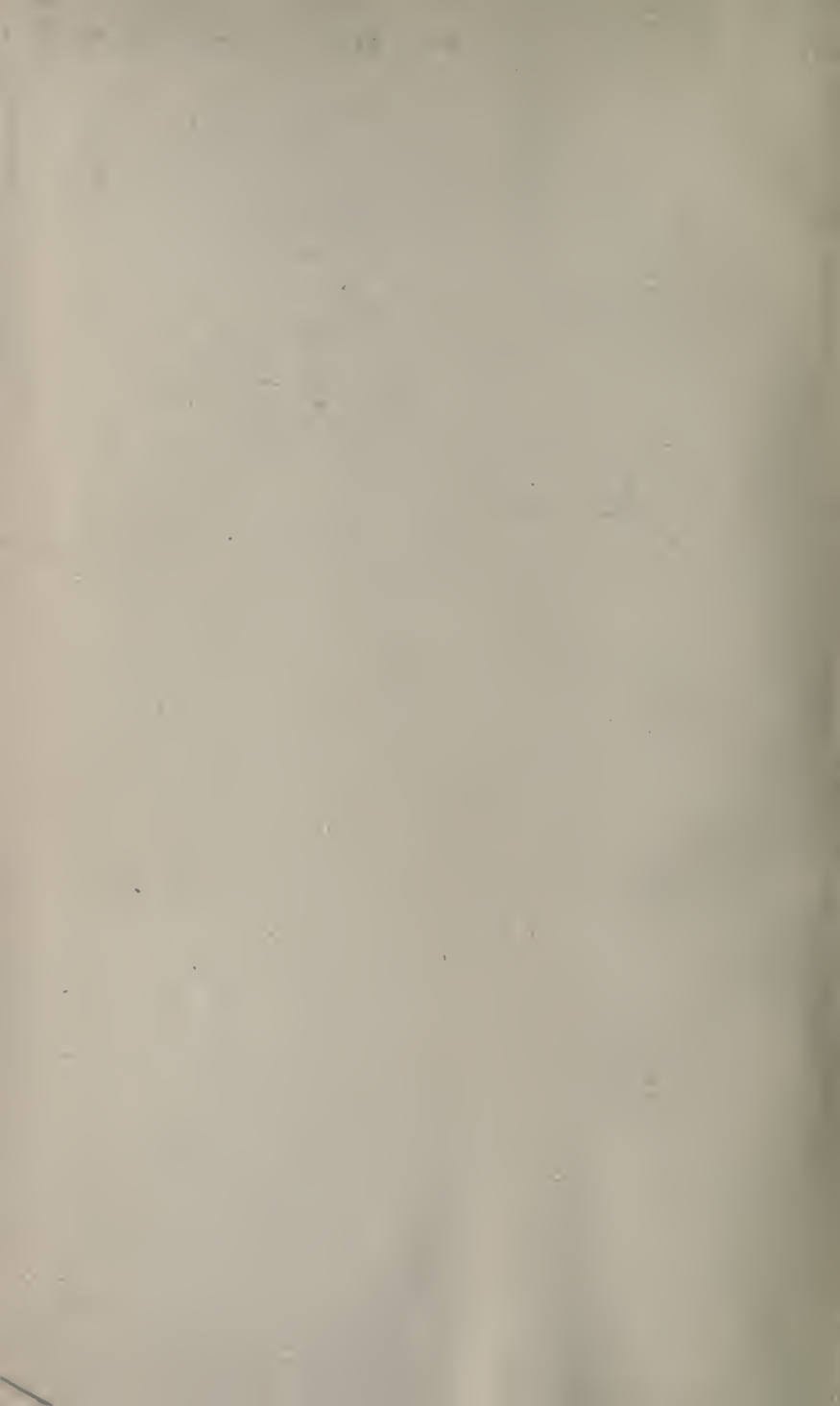
- 1892 STEWART-MCKAY, W. J., M.B., M.Ch., B.Sc., Australian Club, Macquain Street, Sydney, New South Wales.
- L. 1888 STONE, ISAAC S., M.D., 2936, Fourteenth Street, N.W., Washington, D.C., U.S.A.
- 1893 †STONE, RALPH, L.R.C.S.I., L.R.C.P.I., 11, Gloucester Terrace, Queen's Gate, S.W.
- 1886 †STRANGE, W. HEATH, M.D., 5, Grosvenor Street, W.
- L. 1892 SULLIVAN, W. H. D., 80, Collins Street, Melbourne, Victoria.
- 1885 †SUNDERLAND, SEPTIMUS, M.D., M.R.C.S., L.R.C.P.Lond., *Physician to the Royal Hospital for Women and Children*, 11, Cavendish Place, Cavendish Square, W. C. 1894-6.
- L. 1885 *SUTTON, RHOADS STANBURY, M.D.
- F.F. SWAIN, W. PAUL, F.R.C.S., *late Surgeon Royal Albert Hospital, Devonport*, 17, The Crescent, Plymouth. C. 1884-6.
- F.F. SWAYNE, JOSEPH GRIFFITHS, M.D.Lond., *Consulting Physician-Accoucheur Bristol General Hospital*, 74, Pembroke Road, Clifton, Bristol. V.P. 1886-8.
- L. 1888 SWEETNAM, LESLIE MATTHEW, M.D., Toronto, Canada.
- L. F.F. TAIT, LAWSON, F.R.C.S., *Consulting Surgeon to the Birmingham and Midland Hospital for Women*, Peterbrook, King's Heath, Birmingham. V.P. 1884-5. Pres. 1886. C. 1887-9.
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